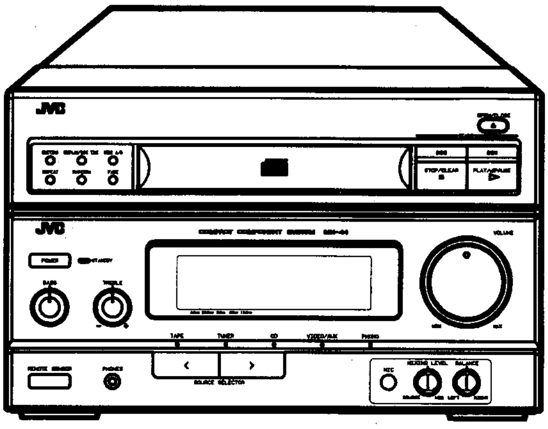
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-MX44BK

(UNIT No. AX-MX44BK)



* For instruction manual, please refer to the CA-MX44BK (S.M. No.20325).

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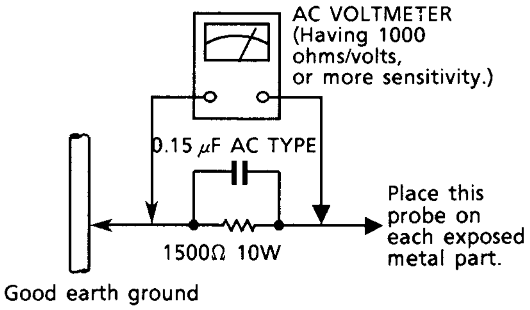
No. 20326
Feb. 1992

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.).
     This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER : Invisible laser radiation will cause when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION : If safety switches malfunction, the laser is able to function.
6. CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
7. CAUTION : The compact disc player provides a laser diode of wavelength 760-800nm and optical output power typical 3mW at the laser diode.

VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

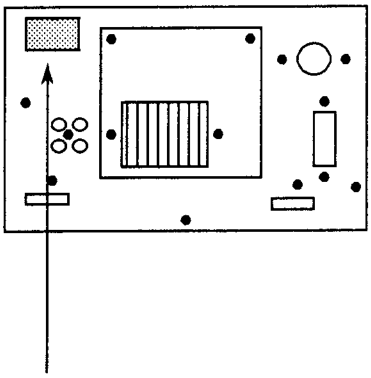
(Except for the U. S. A.)

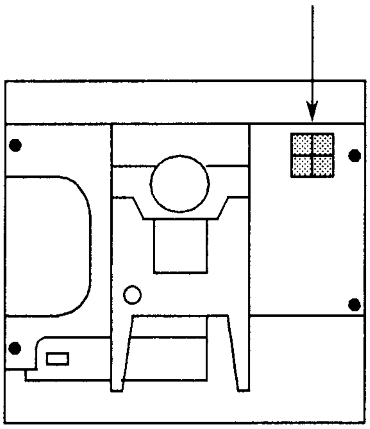
DANGER: invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)

VARNING: Osynling laserstråling när denna del å öppnad och spärren är urkoppled. Betrakta ej stålen. (s)

ADVARSEL: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude at funktion. Undgåudsættelse for stråling. (d)

VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)





CLASS 1
LASER PRODUCT

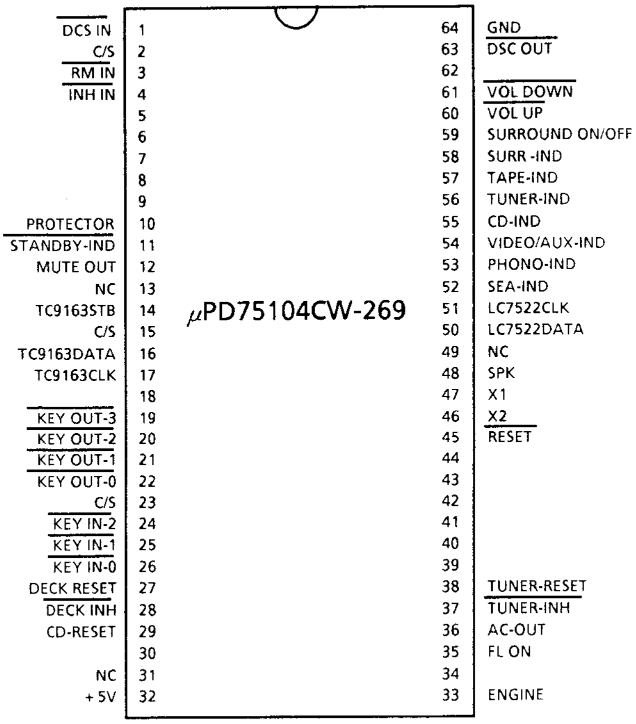
CLASSIFICATION LABEL

(Except for the U. S. A. and Canada)

Description of Major LSIs

■ μPD75104CW-269(IC502) : System controller

1. Terminal Layout


μPD75104CW-269
DCS IN 1
C/S 2
RM IN 3
INH IN 4
5
6
7
8
9
PROTECTOR 10
STANDBY-IND 11
MUTE OUT 12
NC 13
TC9163STB 14
C/S 15
TC9163DATA 16
TC9163CLK 17
18
KEY OUT-3 19
KEY OUT-2 20
KEY OUT-1 21
KEY OUT-0 22
C/S 23
KEY IN-2 24
KEY IN-1 25
KEY IN-0 26
DECK RESET 27
DECK INH 28
CD-RESET 29
30
NC 31
+5V 32
64 GND
63 DSC OUT
62
61 VOL DOWN
60 VOL UP
59 SURROUND ON/OFF
58 SURR -IND
57 TAPE-IND
56 TUNER-IND
55 CD-IND
54 VIDEO/AUX-IND
53 PHONO-IND
52 SEA-IND
51 LC7522CLK
50 LC7522DATA
49 NC
48 SPK
47 X1
46 X2
45 RESET
44
43
42
41
40
39
38 TUNER-RESET
37 TUNER-INH
36 AC-OUT
35 FL ON
34
33 ENGINE

2. KEY matrix

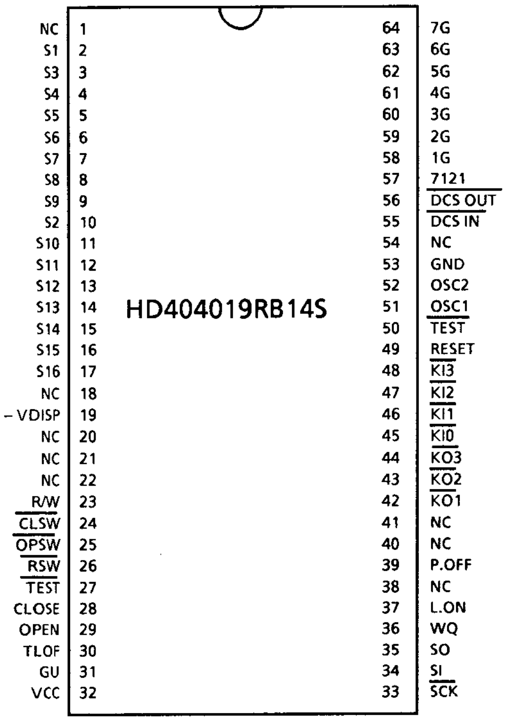
	KEY IN 0 (PIN26)
KEY OUT 0 (PIN22)	SOURCE ▷
KEY OUT 1 (PIN21)	SOURCE ◁
KEY OUT 2 (PIN20)	POWER

3. Terminal Description

Pin NO.	Symbol	I/O	Function and Operations	Pin NO.	Symbol	I/O	Function and Operations
1	DCS IN	I	Compulink signal input	33	ENGINE	--	Non connection
2	C/S	--	Connected to GND	34	—	--	Non connection
3	RM IN	I	Remote control signal input	35	FL ON	O	FL ON signal output
4	INH IN	I	System inhibit signal input	36	AC-OUT	O	Power primary OFF signal
5	—	--	Connected to GND	37	TUNER INH	O	Tuner inhibit signal output
6	—	--	〃	38	TUNER RESET	O	Tuner reset signal output
7	—	--	〃	39	—	--	Non connection
8	—	--	〃	40	—	--	〃
9	—	--	〃	41	—	--	〃
10	PROTECTOR	I	Protector detection signal	42	—	--	〃
11	STANDBY IND	O	Indication signal for standby/remote cont.	43	—	--	〃
12	MUTE OUT	O	Mute signal ouput	44	—	--	〃
13	NC	--	Non connection	45	RESET	I	System reset signal input
14	TC9163STB	O	Strobe signal output (To TN9163N)	46	X2	O	Clock oscillation output
15	C/S	--	Connected to GND	47	X1	I	Clock oscillation input
16	TC9163DATA	O	Serial data output (To TN9163N)	48	SPK	O	Speaker relay on signal output
17	TC9163CLK	O	Clock signal output (To TN9163N)	49	NC	--	Non connection
18	—	--	Connected to GND	50	LC7522DATA	O	Serial data output (To LC7522)
19	KEY OUT 3	O	Key matrix output	51	LC7522CLK	O	Clock signal output (To LC7522)
20	KEY OUT 2	O	〃	52	SEA-IND	O	SEA indicator signal output
21	KEY OUT 1	O	〃	53	PHONO-IND	O	PHONO indicator signal output
22	KEY OUT 0	O	〃	54	V/A -IND	O	VIDEO / AUX indicator signal output
23	C/S	--	Connected to GND	55	CD-IND	O	CD indicator signal output
24	KEY IN 2	I	Key matrix input	56	TUNER-IND	O	TUNER indicator signal output
25	KEY IN 1	I	〃	57	TAPE-IND	O	TAPE indicator signal output
26	KEY IN 0	I	〃	58	SURR.IND	--	Non connection
27	DECK RESET	O	Deck reset signal output	59	SURR.ON/OFF	--	Non connection
28	DECK INH	O	Deck inhibit signal output	60	VOL UP	O	Volume up signal output
29	CD RESET	O	CD reset signal output	61	VOL DOWN	O	Volume down signal output
30	—	--	Connected to GND	62	—	--	Non connection
31	NC	--	Non connect	63	DCS OUT	--	Compulink signal output
32	Vcc	--	Power supply voltage (+5V)	64	GND	--	Ground

■ HD404019RB14S(IC951) : CD system controller

1. Terminal Layout


HD404019RB14S
NC 1
S1 2
S3 3
S4 4
S5 5
S6 6
S7 7
S8 8
S9 9
S2 10
S10 11
S11 12
S12 13
S13 14
S14 15
S15 16
S16 17
NC 18
-VDISP 19
NC 20
NC 21
NC 22
R/W 23
CLSW 24
OPSW 25
RSW 26
TEST 27
CLOSE 28
OPEN 29
TLOF 30
GU 31
VCC 32
33 SCK
34 SI
35 SO
36 WQ
37 L.ON
38 NC
39 P.OFF
40 NC
41 NC
42 KO1
43 KO2
44 KO3
45 KI0
46 KI1
47 KI2
48 KI3
49 RESET
50 TEST
51 OSC1
52 OSC2
53 GND
54 NC
55 DCS IN
56 DCS OUT
57 7121
58 1G
59 2G
60 3G
61 4G
62 5G
63 6G
64 7G

2. Key Matrix

	KEY IN 0 (PIN45)	KEY IN 1 (PIN46)	KEY IN2 (PIN47)	KEY IN3 (PIN48)
KEY OUT 1 (PIN42)	STOP /CLEAR	⏭	PLAY PAUSE	OPEN /CLOSE
KEY OUT 2 (PIN43)	DISPLAY	A. EDIT	⏮	FADE
KEY OUT 3 (PIN44)	REPEAT	SIDE A/B	—	RANDOM

3. Terminal Description

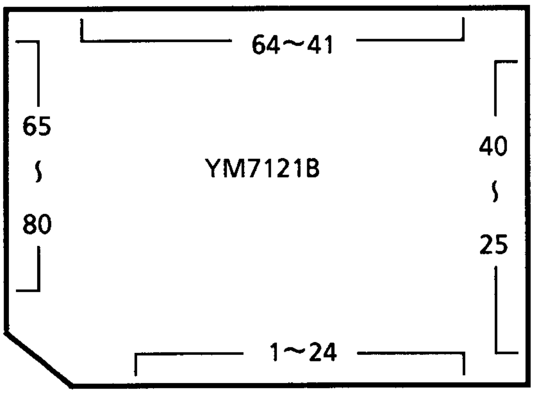
Pin NO.	Symbol	I/O	Function and Operations	Pin NO.	Symbol	I/O	Function and Operations
1	NC	--	Non connection	33	SCK	O	Clock output
2	S1	O	FL segment control output	34	SI	O	Serial data output
3	S3	O	〃	35	SO	I	Serial data input
4	S4	O	〃	36	WQ	I/O	Write request input
5	S5	O	〃	37	L.ON	O	Laser ON signal
6	S6	O	〃	38	NC	--	Non connection
7	S7	O	〃	39	P.OFF	O	CD power off signal
8	S8	O	〃	40	NC	--	Non connection
9	S9	O	〃	41	NC	--	〃
10	S2	O	〃	42	KO1	O	Key matrix output
11	S10	O	〃	43	KO2	O	〃
12	S11	O	〃	44	KO3	O	〃
13	S12	O	〃	45	KI0	I	Key matrix input
14	S13	O	〃	46	KI1	I	〃
15	S14	O	〃	47	KI2	I	〃
16	S15	O	〃	48	KI3	I	〃
17	S16	O	〃	49	RESET	I	Reset signal input
18	NC	--	Non connection	50	TEST	--	PULL UP (+ 5V)
19	-VDISP	I	Power supply for FL display	51	OSC 1	I	Clock oscillation input
20	NC	--	Non connection	52	OSC 2	O	Clock oscillation output
21	NC	--	〃	53	GND	--	Ground
22	NC	--	〃	54	NC	--	Non connection
23	R / W	O	Read / write signal output	55	DCS IN	I	Compulink signal input
24	CLSW	I	"L" with tray closed	56	DCS OUT	O	Compulink signal output
25	OPSW	I	"L" with tray opened	57	7121	--	Pull up(+ 5V)
26	RSW	I	"L" with pickup rest position	58	1G	O	FL grid control output
27	TEST	--	TEST mode terminal	59	2G	O	〃
28	CLOSE	O	"CLOSE" signal output	60	3G	O	〃
29	OPEN	O	"OPEN" signal output	61	4G	O	〃
30	TLOF	O	Turns off tracking servo	62	5G	O	〃
31	GU	O	Increases tracking gain	63	6G	O	〃
32	VCC	--	Power supply voltage (+ 5V)	64	7G	O	〃

■ YM7121B(IC841) : Servo controller

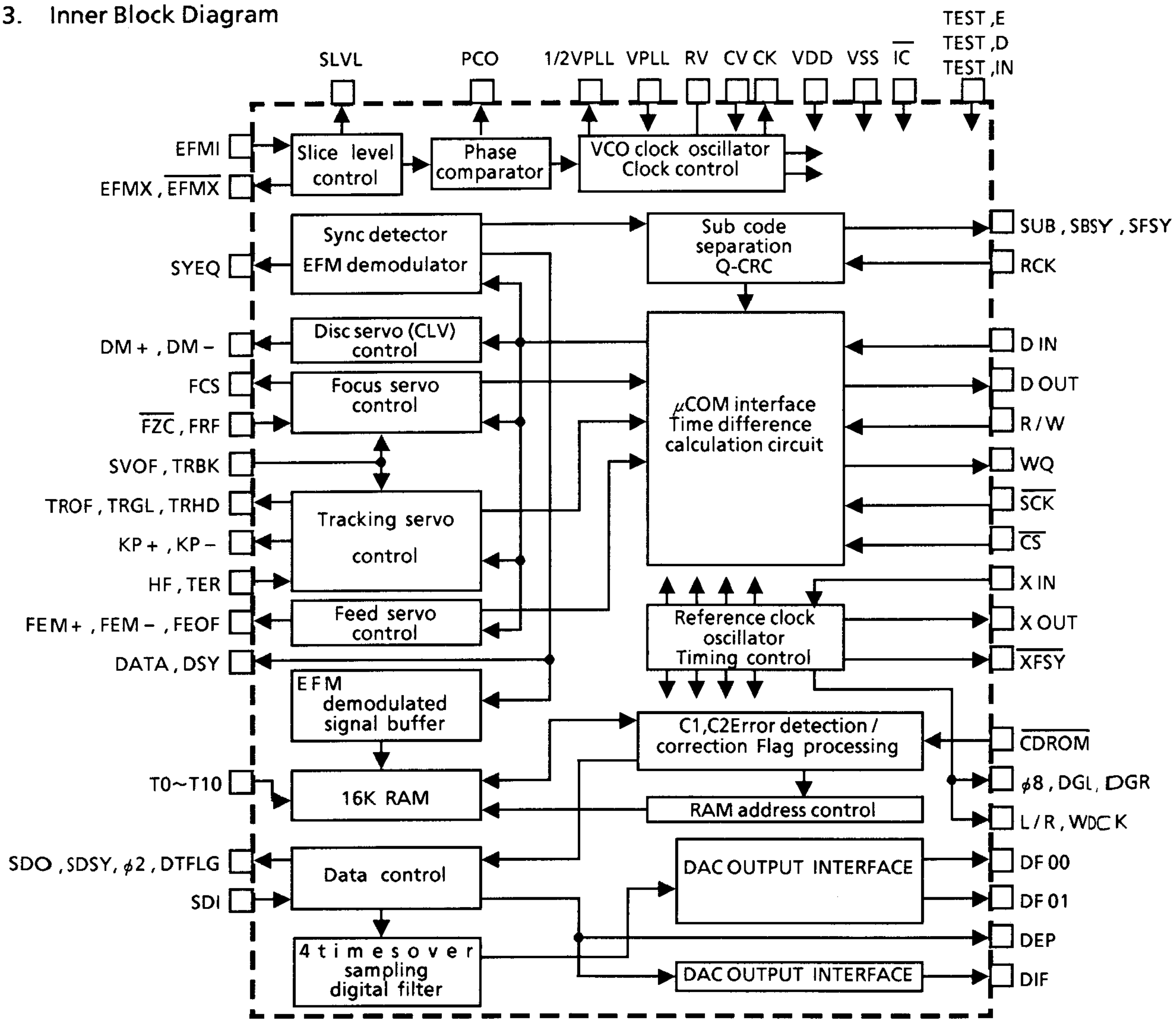
1. Outline

YM7121 is a C-MOS LSI for signal processing and servo control (SVC) in a CD player. It is used for the demodulation of the EFM signal from the laser pick up , detection / correction of the error signal , signal processing in digital filtering , etc. and for various servo controls (focusing , disc , tracking and feed servos).

2. Top View


64~41
65
80
YM7121B
40
25
1~24

3. Inner Block Diagram


SLVL
PCO
1/2VPLL
VPLL
RV
CV
CK
VDD
VSS
$\overline{IC}$
TEST,E
TEST,D
TEST,IN
EFMI
EFMX, $\overline{EFMX}$
Slice level control
Phase comparator
VCO clock oscillator Clock control
SYEQ
Sync detector EFM demodulator
Sub code separation Q-CRC
SUB, SBSY, SFSY
RCK
DM+, DM−
Disc servo (CLV) control
FCS
Focus servo control
$\overline{FZC}$, FRF
SVOF, TRBK
μCOM interface Time difference calculation circuit
D IN
D OUT
R/W
WQ
$\overline{SCK}$
$\overline{CS}$
TROF, TRGL, TRHD
KP+, KP−
Tracking servo control
HF, TER
FEM+, FEM−, FEOF
Feed servo control
DATA, DSY
X IN
Reference clock oscillator Timing control
X OUT
XFSY
EFM demodulated signal buffer
C1,C2Error detection / correction Flag processing
$\overline{CDROM}$
T0~T10
16K RAM
RAM address control
φ8, DGL, DGR
L/R, WDCK
SDO, SDSY, φ2, DTFLG
SDI
Data control
DAC OUTPUT INTERFACE
DF00
DF01
DEP
4 times over sampling digital filter
DAC OUTPUT INTERFACE
DIF

4. Terminal Description

Pin No.	Symbol	I/O	Function and Operation
1	CV	—	Adequate time constant is added to this terminal and input the PCO output. This makes the structure of clock reproduce circuit by inner VCO circuit.
2	RV	–	RV terminal is standard voltage terminal of inner VCO. And capacity for stabilizing is added tothis terminal.
3,32,72	VDD	–	These are +5V power supply terminals.
4 5 70	TEST. IN TEST. E TEST. D	I I I	These terminals are for test. **(Not used)**
6	SYEQ	O	This is the check output terminal, it becomes high when flame synchronizing signal detected from EFM pattern coincides frame synchronizing signal from internal counter.
7	DSY	O	DSY is synchronizing signal which becomes high when first signal of data output comes in. This terminal is the check terminal. **(Not used)**
8	DATA	O	This terminal is for checks. The DATA is a serial signal of CK bit rate and it contains 8 bit EFMdemodulation signal and 5 bit data control signal in 17 bit. **(Not used)**
9	CK	O	CK has 4.3218 MHz clock.
10~19	T0~T9	I	These terminals are internal RAM test terminals, and connected GND.
22	DEP	O	De-emphasis is necessary when this terminal is high.
23	DIF	O	DIF is digital audio interface format output matched EIAJ standards. **(Not used)**
24	SDO	O	SDO is a serial signal output of $\phi 2$ bit rate. (The MSB puts in at first.)
25	SDI	I	SDI is the input terminal of 4 times over sampling digital filter. It is usually connected with SDO.
26	SDSY	O	This terminal changes the Lch / Rch by LSB of the SDO. **(Not used)**
27	DTFLG	O	Not used.
28	$\phi 2$	O	$\phi 2$ is 2.1168 MHz crystal clock. **(Not used)**
29, 52, 77	VSS	–	GND
30	XOUT	O	Not used.
31	XIN	I	Input from crystal clock.
33~38	—	O	Not used.
39	Φ8	O	
40	WDCK	O	Synchronizing signal
41	L/R	O	Synchronizing signal
42, 43	DGL,,DGR	-	Not used.
44, 45	DF00, DF01	O	Serial signal with Φ8 bit rate (DF00 : Left channel, DF01 : Right channel)
46	SCK	I	This terminal is connected to μCOM. It is an input terminal that carries the clock signal for data transfers.
47	R/W	I	This connects with microcomputer and it is an output terminal for switching data transmission mode. it enables to transmit data from SVC to microcomputer when R/M is "L" and from microcomputer to SVC when R/W is "H".
48	CS	I	This is chip select terminal for YM7121.
49	DOUT	O	This terminal is the data output terminal connected to μCOM. When R / W is low, data is transfered from YM7121 to μCOM, according to the SCK clock input.
51	DIN	I	This is a data input terminal connected to μCOM. When R / W is high, the data is transferred from μCOM to YM7121 according to the SCK clock input.
53 54	DM+ DM–	O O	These terminals output the PWM to control the speed of spindle motor. The speed of the motor goes up when DM+ is high, and slows down when DM– is high: both terminals can not become high simultaneously.
55 56 60 61 62 63 64	HF TER TRHD TRGL TROF KP– KP+	I I O O O O O	When tracks are being crossed during serches, the amplitude variation of the generated HF signal is sampled at the zero-cross point of the tracking error signal TER and the TROF signal is output. The level variations of this signal turn the servo on and off, greatly facilitaing track acquisition. KP+ or KP– is output to conduct tracking, and TRHD is output during tracking to cause generation of the tracking error signal. The TRGL signal is for increasing the tracking gain after tracking is com pleted.
57, 58, 59	FEM+, FEM–, FEOF	O	The FEM+ and FEM– are output as high speed feed signals, and FEOF signal is output for cutting the feed servo during high speed feed.
65	TRBK	I	TRBK is input to apply tracking brake from outside. TRGL becomes low with high input and inner control signal TBKE becomes high.
66	SVOF	I	When the signal inputs to SVOF, tracking and feed servo set to OFF. TROF and FEOF become "H" with high input, and TRHD, KP+, KP– become low.
67 58 59	FZC FCS FRF	I O I	These terminals are used for controlling the focus servo. The FCS is for a leading signal of focusing; the signal, generated when the focus point is achieved, stops the focusing operation, and FCO which is internal flag is dropped internally by FRF signal generated when reflected light is detected.
71	IC	I	YM7121 needs initializing when power supply turn on. IC will be low more than 400μs since XIN is input clock with VDD standard.
73 74 75	SLVL EFMX EFMX	O O O	Amplitude limited, mutually anti-phased signals are output from EFMX and EMFX. Slice level is controlled by these signals and external amplifier. SLVL is output amplitude alteration component of both terminals. When integral circuit is connected to external YM7121 easily can control slice level.
76	EFMI	I	This terminal input EFM signal. (1~2 Vpp)
78	PCO	O	This terminal outputs the phase difference when the polarity of the clock and the EFM pattern changes.
79	VPLL	I	This terminal is input D.C. voltage matched VCO free run frequency. (17.2872 MHz)
80	1/2 VPLL	O	This terminal outputs a half of VPLL input, and capacity for stabilizing is added to this terminal.

■JCE4501(IC873) : D / A converter

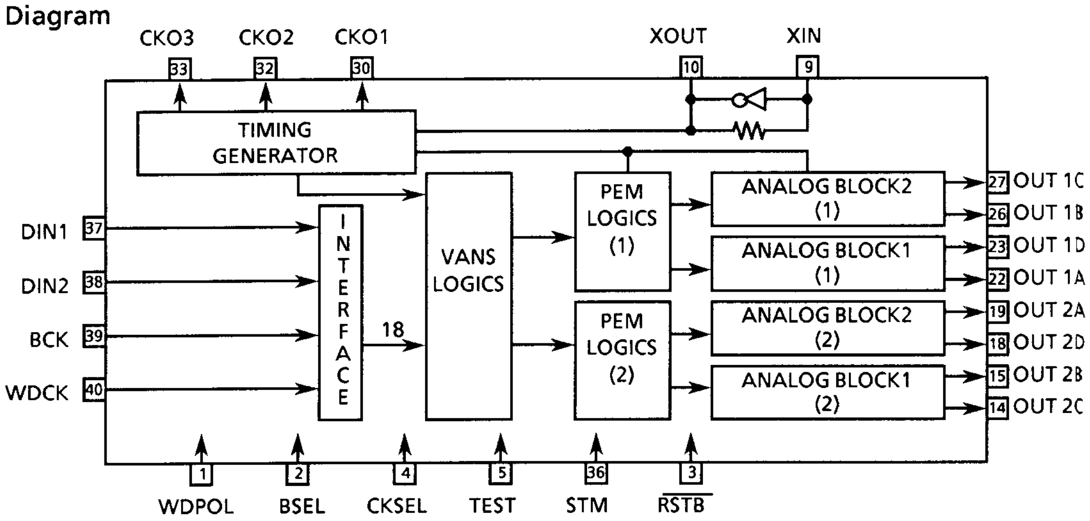
1. Outline

The JCE4501 is a CMOS digital-analog converter with independent left and right channels. It was developed for PCM digital audio equipment. It features pulse edge modulation (PEM) and Victor advanced noise shaping (VANS) for resolution equipment to 20 bits(0-20kHz) and a low distortion ratio. At JVC, this type of digital-analog converter is called a DD converter.

2. Terminal Layout

WDPOL	1	40	WDCK
BSEL	2	39	BCK
$\overline{\text{RSTB}}$	3	38	DIN2
CLKSEL	4	37	DIN1
TEST	5	36	STM
COM	6	35	NC
NSUB	7	34	DVDD2
DVDD1	8	33	CKO3
XIN	9	32	CKO2
XOUT	10	31	DVSS2
DVSS1	11	30	CKO1
NC	12	29	NC
AVSS1	13	28	AVSS4
OUT2C	14	27	OUT1C
OUT2B	15	26	OUT1B
AVDD1	16	25	AVDD4
AVDD2	17	24	AVDD3
OUT2D	18	23	OUT1D
OUT2A	19	22	OUT1A
AVSS2	20	21	AVSS3

3. Block Diagram


CKO3
CKO2
CKO1
XOUT
XIN
33
32
30
10
9
TIMING GENERATOR
DIN1 37
DIN2 38
BCK 39
WDCK 40
INTERFACE
18
VANS LOGICS
PEM LOGICS (1)
PEM LOGICS (2)
ANALOG BLOCK2 (1)
ANALOG BLOCK1 (1)
ANALOG BLOCK2 (2)
ANALOG BLOCK1 (2)
27 OUT 1C
26 OUT 1B
23 OUT 1D
22 OUT 1A
19 OUT 2A
18 OUT 2D
15 OUT 2B
14 OUT 2C
1
2
4
5
36
3
WDPOL
BSEL
CKSEL
TEST
STM
RSTB

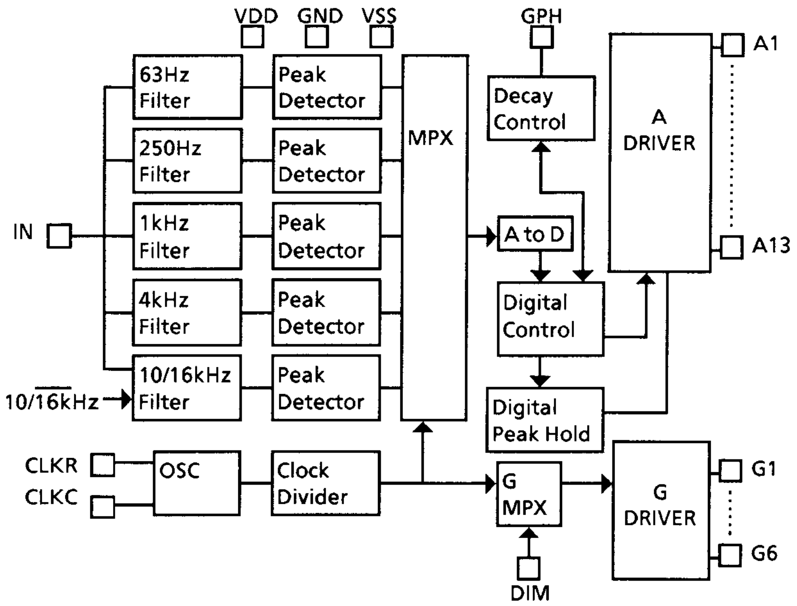
4. Terminal Description

Pin No	Symbol	I/O	Description	Pin No	Symbol	I/O	Description
1	WDPOL	I	Word data polarity switching pin	21	AVSS3	–	Analog ground pin 3
2	BSEL	I	H:CDX2554P format,L: YM7121 format	22	OUT1A	O	1A PEM output pin
3	RSTB	I	Reset pin (low active)	23	OUT1D	O	1D PEM output pin
4	CLKSEL	I	H: 256Fs mode,L: 384Fs mode	24	AVDD3	–	Analog power supply pin 3
5	TEST	I	Test mode switching pin	25	AVDD4	–	Analog power supply pin 4
6	COM	I	COM board voltage fastening pin	26	OUT1B	O	1B PEM output pin
7	NSUB	I	Silicon board voltage fastening pin	27	OUT1C	O	1C PEM output pin
8	DVDD1	–	Digital power supply pin 1	28	AVSS4	–	Analog ground pin 4
9	XIN	I	Crystal oscillator input pin	29	NC	–	To ground
10	XOUT	O	Crystal oscillator output pin	30	CKO1	O	Clock output pin 1(384Fs output)
11	DVSS1	–	Digital ground pin 1	31	DVSS2	–	Digital ground pin 2
12	NC	–	To ground	32	CKO2	O	Clock output pin 2(192Fs output)
13	AVSS1	–	Analog ground pin 1	33	CKO3	O	Clock output pin 3(128Fs output)
14	OUT2C	O	2C PEM output pin	34	DVDD2	–	Digital power supply pin 2
15	OUT2B	O	2B PEM output pin	35	NC	–	Non connection
16	AVDD1	–	Analog power supply pin 1	36	STM	I	Stereo/monaural switching pin. H:stereo,L:left channel,reversed polarity left channel
17	AVDD2	–	Analog power supply pin 2	37	DIN1	I	Left channel 18-bits 8Fs serial data input
18	OUT2D	O	2D PEM output pin	38	DIN2	I	Right channel 18-bits 8Fs serial data input
19	OUT2A	O	2A PEM output pin	39	BCK	I	Bit clock input pin
20	AVSS2	–	Analog ground pin 2	40	WDCK	I	Word clock input pin

Internal Block Diagrams of Other ICs

■ XR1094CP (IC901) : Display Driver

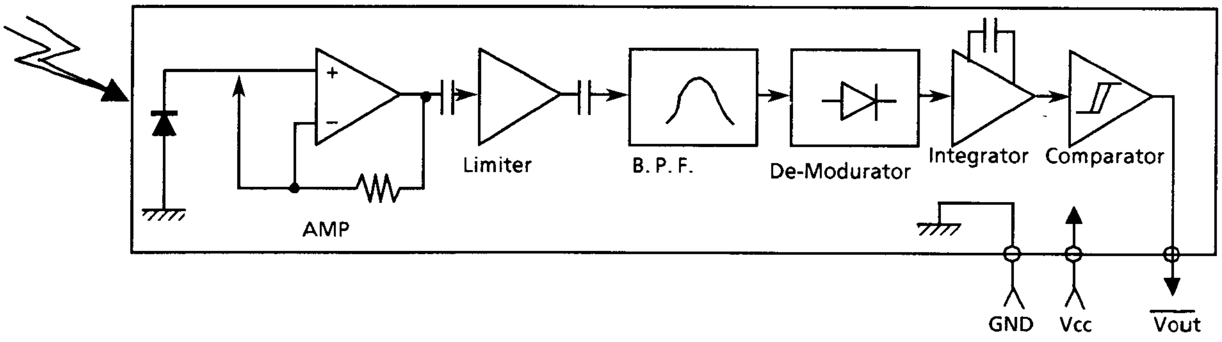
1. Block Diagram


VDD
GND
VSS
GPH
63Hz Filter
250Hz Filter
1kHz Filter
4kHz Filter
10/16kHz Filter
Peak Detector
Peak Detector
Peak Detector
Peak Detector
Peak Detector
MPX
Decay Control
A DRIVER
A1
A13
A to D
Digital Control
Digital Peak Hold
IN
10/$\overline{16}$kHz
CLKR
CLKC
OSC
Clock Divider
G MPX
G DRIVER
G1
G6
DIM

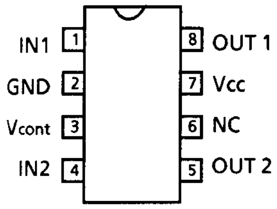
2. Terminal description

Pin No.	Symbol	Description
1~13	A1~A13	FL anode control
31~26	G1~G6	FL grid control
15	DIM	Connected to ground
16	10k/16k	Input terminal for the filter select "L" : 16kHz, "H" : 10kHz
17	VSS	Power supply(−)
20	GND	Ground
21	IN	Audio signal input
22	GPH	The resistor and capacitor connected to this pin determine the peak hold time.
23	CLKC	A capacitor is connected for oscillation
24	CLKR	A resistor is connected for oscillation
32	VDD	Power supply (+)

■ SPS-420-1 (IC902) : Remocon Module IC


+
−
AMP
Limiter
B. P. F.
De-Modurator
Integrator
Comparator
GND
Vcc
$\overline{\text{Vout}}$

■ LB1639-CV (IC633) : Motor Driver

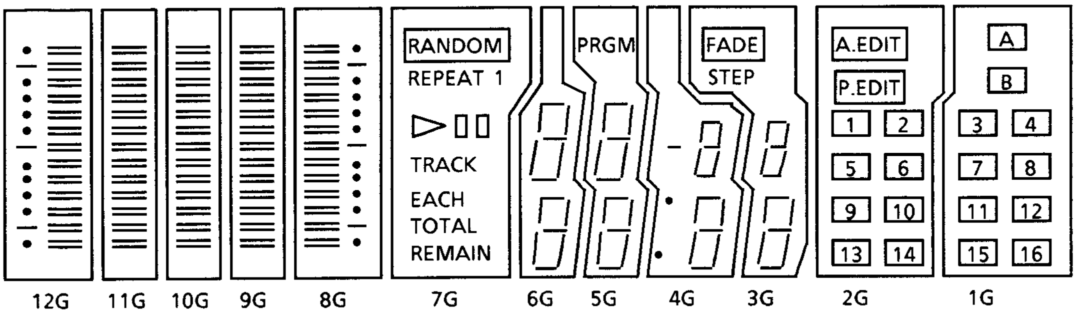

IN1 1
GND 2
Vcont 3
IN2 4
8 OUT 1
7 Vcc
6 NC
5 OUT 2

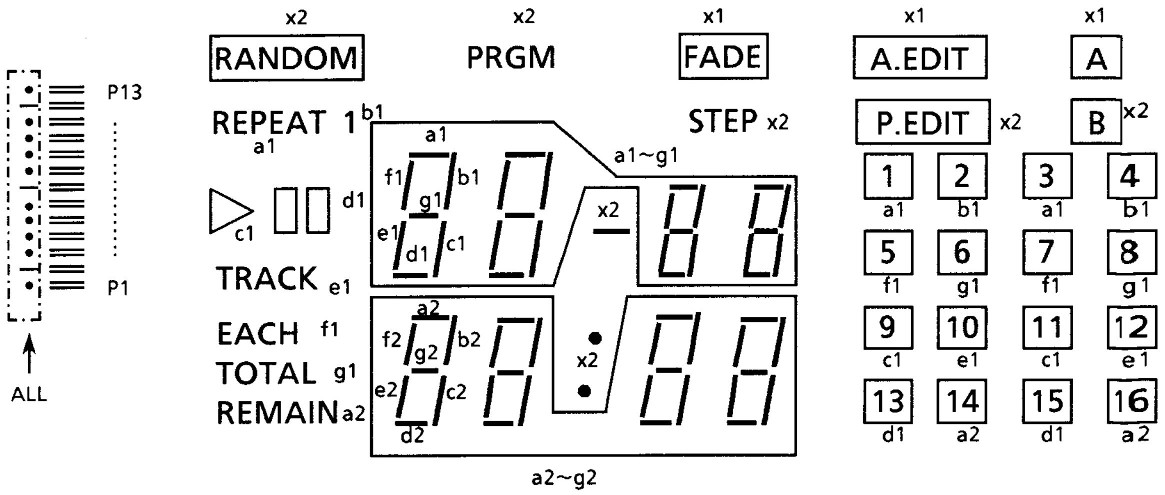
FUNCTION TABLE

IN 1	IN 2	OUT 1	OUT 2	MOTOR
H	L	H	L	CLOCKWISE
L	H	L	H	COUNTER-CLOCKWISE
H	H	OFF	OFF	WAITING
L	L	OFF	OFF	WAITING

Internal Connection for the FL Display Tube

■ ELU0001-131 : FL display


RANDOM
REPEAT 1
TRACK
EACH
TOTAL
REMAIN
PRGM
FADE
STEP
A.EDIT
P.EDIT
A
B
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
12G
11G
10G
9G
8G
7G
6G
5G
4G
3G
2G
1G


P13
P1
ALL
x2
RANDOM
x2
PRGM
x1
FADE
x1
A.EDIT
x1
A
REPEAT 1
a1
b1
STEP x2
P.EDIT
x2
B
x2
d1
c1
TRACK e1
EACH f1
TOTAL g1
REMAIN a2
a1
f1
b1
g1
e1
d1
c1
a1~g1
x2
a2
f2
g2
b2
e2
c2
d2
x2
a2~g2
1
a1
2
b1
3
a1
4
b1
5
f1
6
g1
7
f1
8
g1
9
c1
10
e1
11
c1
12
e1
13
d1
14
a2
15
d1
16
a2

Terminal connection

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
ELECTRODE	F1	F1	F1	NP	ALL	12G	P1	P2	P3	11G	P4	P5	10G	P6	P7	P8	9G			
TERMINAL NO.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
ELECTRODE	P9	P10	8G	P11	P12	7G	P13	Px1	Px2	7G	Pa1	6G	Pb1	Pc1	5G	Pd1	Pe1	4G	Pf1	Pg1
TERMINAL NO.					38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
ELECTRODE					3G	Pa2	Pb2	2G	Pc2	Pd2	2G	Pe2	1G	Pf2	Pg2	1G	NP	F2	F2	F2

Notes
F: Filament
G: Grid
P: Anode
NP: No Pin

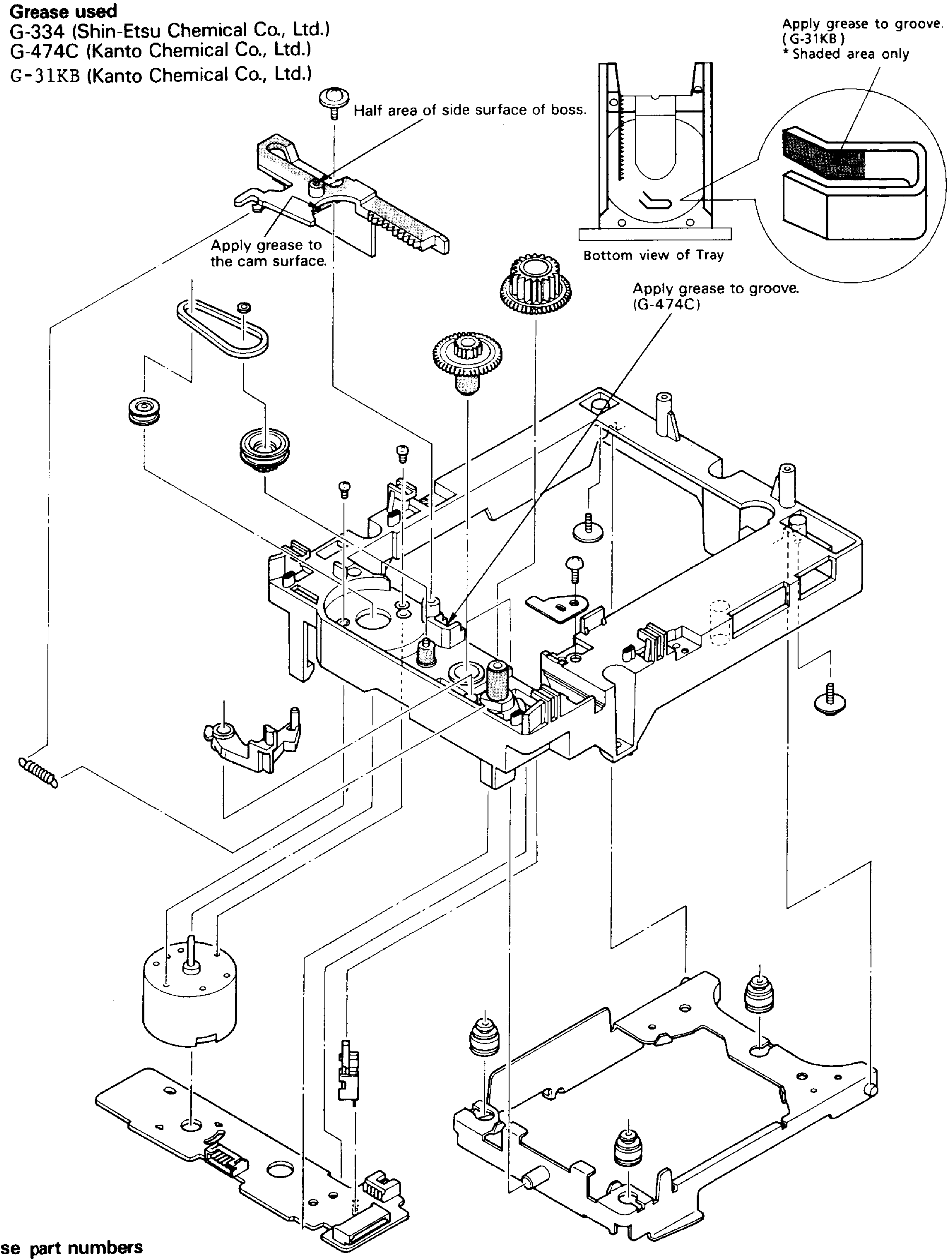
Application points for Grease

Grease used

■ G-334 (Shin-Etsu Chemical Co., Ltd.)

░ G-474C (Kanto Chemical Co., Ltd.)

▓ G-31KB (Kanto Chemical Co., Ltd.)


Half area of side surface of boss.
Apply grease to the cam surface.
Apply grease to groove.
(G-31KB)
* Shaded area only
Bottom view of Tray
Apply grease to groove.
(G-474C)

Grease part numbers
G-334: EBS0006-009B
G-474C: EBS0006-019B
G-31KB: EBS0006-013B

Disassembly Procedures

■ Top cover removal

1. Remove 4 screws on both sides of the top cover and 2 screws on the rear side.
2. Lift the back of the top cover spreading both sides to remove.

■ Tray assembly removal

1. Remove the top cover.
2. Turn the power on and press the OPEN/CLOSE button to move the tray out.
3. Remove the screw Ⓓ and pull the tray toward front out.
4. If the power can not be turned on due to any malfunction, insert a filips driver to the hall Ⓐ to turn the screw to move the tray out (Figure 1).

■ CD chassis base removal

1. Remove the top cover.
2. Remove the tray assembly.
3. Disconnect the connector P711 and the flat wire J701 (Figure 2).
4. Remove the 4 screws Ⓒ fixing the chassis base.
5. Take out the chassis base with the CD mechanism assembly.

■ Front panel assembly removal

1. Remove the top cover.
2. Remove the CD chassis base.
3. Remove the volume knob and the nut fastning the volume.
4. Disconnect the flat wire J493, JA511 and J944 (Figure 3).
5. Release the pawls Ⓑ and remove the front panel assembly (Figure 1).

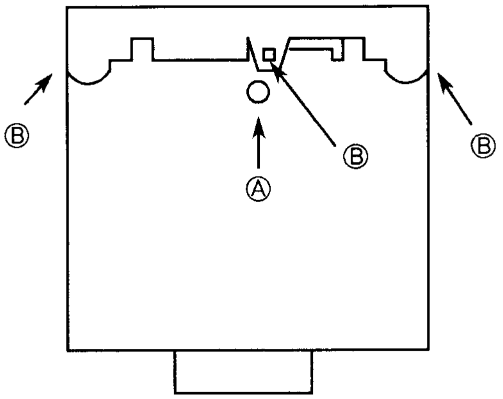


Figure 1 Bottom view

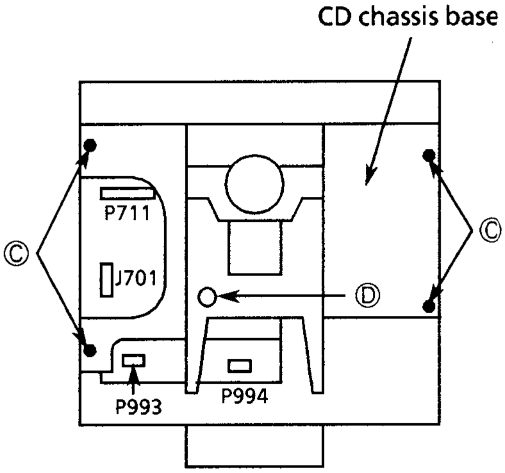

CD chassis base
P711
J701
Ⓒ
Ⓒ
Ⓓ
P993
P994

Figure 2 Top view

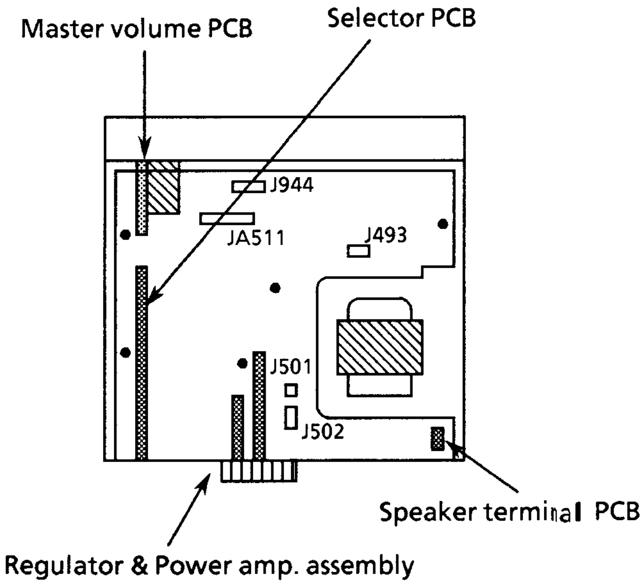

Master volume PCB
Selector PCB
J944
JA511
J493
J501
J502
Speaker terminal PCB
Regulator & Power amp. assembly

Figure 3 Top view of the unit without the CD chassis base

■ Front PCB removal

1. Remove the front panel assembly.
2. Remove all the knobs.
3. Remove the 12 screws fixing the PCB (Figure 4).
4. Remove the front PCB.

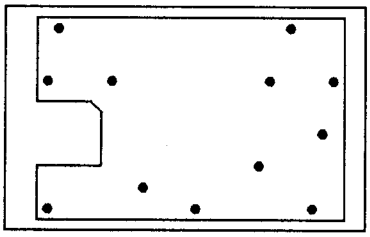


Figure 4 Rear view of the front panel assembly

■ Rear panel removal

1. Remove the 2 screws fastening the heat sink cover and the cover.
2. Remove the screws Ⓔ and Ⓕ (Figure 5).
3. Remove the rear panel.

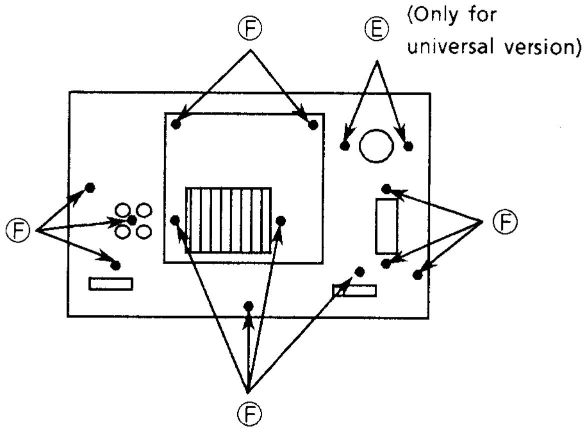

Ⓕ
Ⓔ
(Only for universal version)
Ⓕ
Ⓕ
Ⓕ

Figure 5 Rear view

■ Main PCB removal

1. Remove the top cover.
2. Remove the CD chassis base.
3. Remove the front panel assembly.
4. Remove the rear panel.
5. Remove the master volume PCB, selector PCB, speaker terminal PCB & Regulator & Power amp. assembly (Figure 3).
6. Disconnect the flat wire J501,502 (Figure 3).
7. Remove the 5 screws, then take out the main PCB.

■ Mechanism assembly removal

1. Remove the top cover, tray assembly and clamp.
2. Remove the 3 screws fixing the mechanism assembly.
3. Disconnect connector P994 and flat wire P993 (Figure 2).
4. Remove the mechanism assembly.

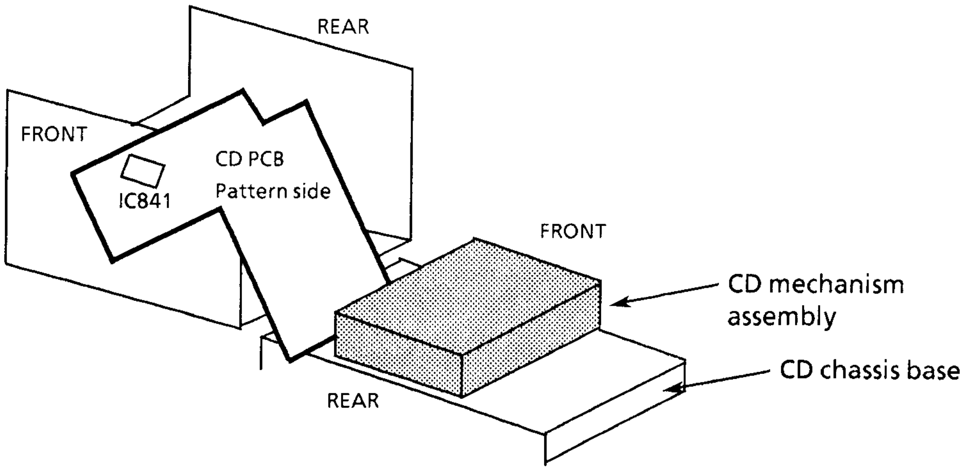

REAR
FRONT
IC841
CD PCB
Pattern side
FRONT
CD mechanism assembly
CD chassis base
REAR

Figure 6 How to check the CD PCB

Laser Pickup removal

1. Remove the top cover, tray assembly and the clamp.
2. Move the Pickup unit from rest position to the center pushing ⑤ point with finger.
3. Remove the screw ② from the CD Rack assembly, and remove the CD Rack assembly.
4. Remove the screws ① from the CD mechanism base assembly.
5. Remove the CD Holder fastening the shaft from the CD mechanism base assembly. (Release the hook ⑥)
6. Remove the CD Pick Unit with the shaft.

CD Pick Unit installation

1. Connect two wires with the connectors of APC P.C.Board.
2. While installing the ③ in the CD Support, set the shaft on the base hook④.
3. Install the CD Holder.
4. Install the CD Rack assembly in the CD Pick Unit.
   1) Fit end ⑦
   2) Fix screw ②.

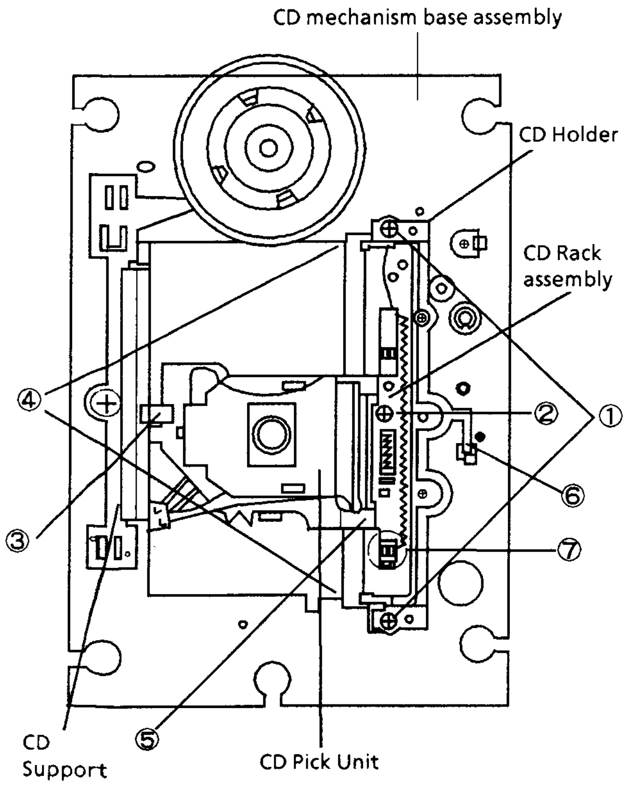


Figure 7

Spindle motor removal

1. Remove the CD mechanism base assembly.
2. Remove the turntable, and remove the two screws retaining the spindle motor.
3. Remove the screws retaining the Spindle and Feed Motor P.C. Board and unsolder it.

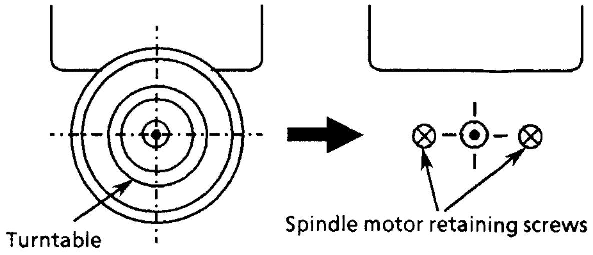


Figure8

Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Fasten the Spindle and Feed Motor P.C. Board with the screw and solder.
3. Install the turntable.When installing, press straight down at the center of the turntable until the distance from the surface of the mechanism base to the top of the turntable is exactly 12.0±0.1mm.

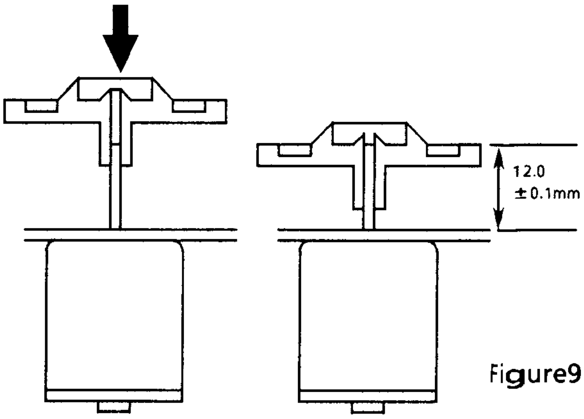


Figure9

4. After insertion is complete, bond the motor shaft and turntable together (at the section marked by an arrow in the figure 10 on the left below).

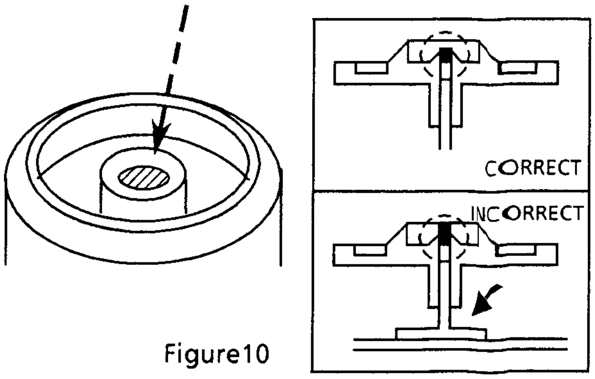
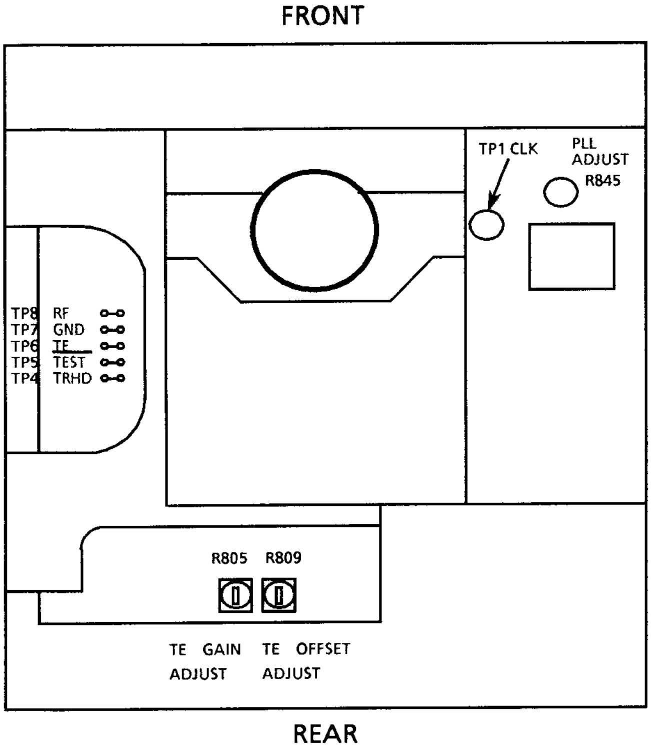


Figure10

5. Use “LOCKTITE” #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an allow in the figure10 on the right).

Adjustment Procedures



(1) PLL free-running adjustment

a. Measuring instrument
   Frequency counter

b. Adjusting procedure
   1. Set the player to stop mode.
   2. Connect a frequency counter with TP1 (CK) and GND on the main PC board.
   3. Adjust R845 for setting the counter's value becomes 4.310 ± 0.002MHz.
   4. Perform this adjustment immediately after the power is turned on.

(2) Tracking gain adjustment

a. Measuring instruments
   Oscilloscope, Normal disc

b. Adjusting procedure
   1. Connect an oscilloscope with TP6 (TE) and TP7 (GND) on the main PC board.
   2. Play the disc.
   3. Short circuit TP5 ($\overline{\text{TEST}}$) to GND.
   4. Adjust R805 for setting tracking error signal becomes 2.0 $V_{P\text{-}P}$.

(3) Tracking offset adjustment

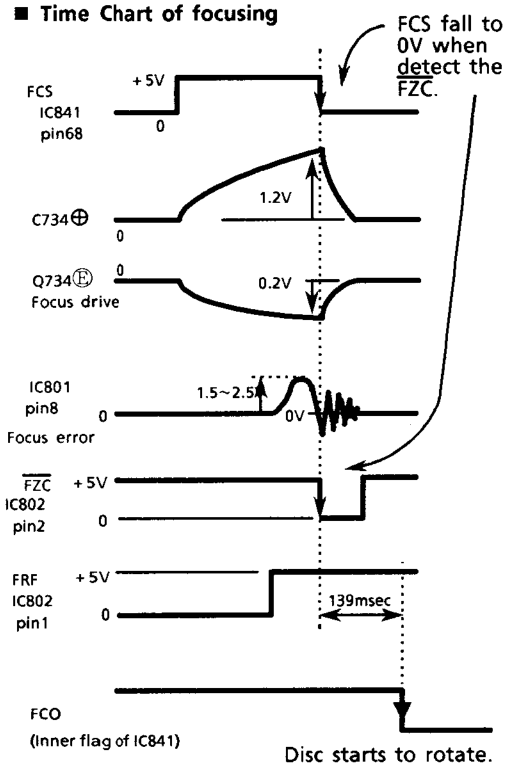
a. Measuring instruments
   Oscilloscope, Normal disc

b. Adjusting procedure
   1. Connect an oscilloscope with TP6 (TE) and GND on the main PC board.
   2. Play the disc.
   3. Short circuit TP5 ($\overline{\text{TEST}}$) to GND.
   4. Adjust R809 for setting the DC level of the tracking error (offset) becomes 0.

   Note: Adjust R809 for setting the waveform becomes symmetrical around the 0 level.

Flow of Functional Operation Until TOC is Read

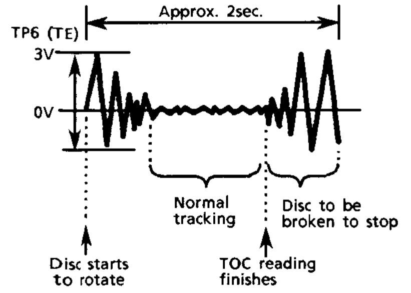
■ Time Chart of focusing



- When the lens moves up and down in a 2-second interval, FZC is not output.
- When the lens moves up and down in less than 1-second, FRF is not output or the focus servo loop is abnormal.

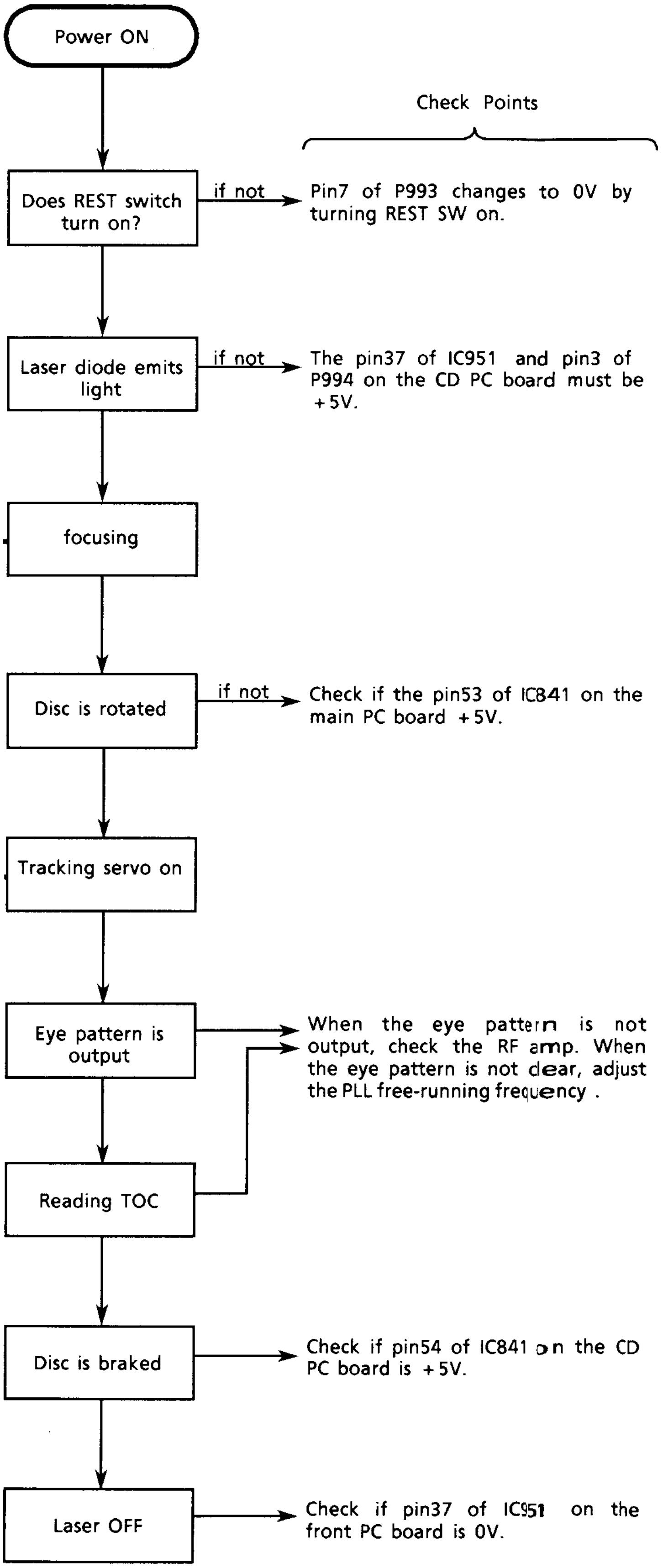
Fig-1

■ Tracking error waveform at TOC reading



- **Check the tracking offset and align it to 0.**

Fig-2


Power ON
Check Points
Does REST switch turn on?
if not
Laser diode emits light
if not
focusing
Disc is rotated
if not
Tracking servo on
Eye pattern is output
Reading TOC
Disc is braked
Laser OFF

Pin7 of P993 changes to 0V by turning REST SW on.

The pin37 of IC951 and pin3 of P994 on the CD PC board must be +5V.

Check if the pin53 of IC841 on the main PC board +5V.

When the eye pattern is not output, check the RF amp. When the eye pattern is not clear, adjust the PLL free-running frequency .

Check if pin54 of IC841 on the CD PC board is +5V.

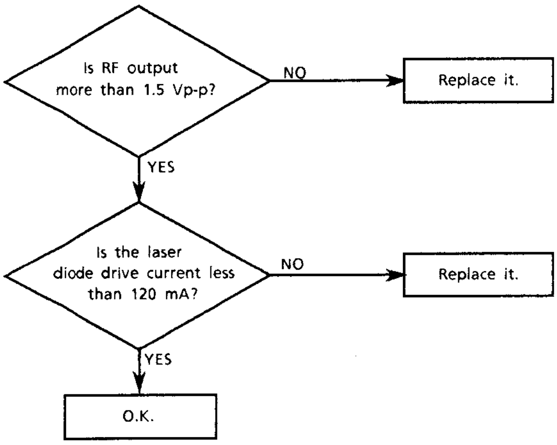
Check if pin37 of IC951 on the front PC board is 0V.

Maintenance of Laser Pickup

(1) Life of the laser diode

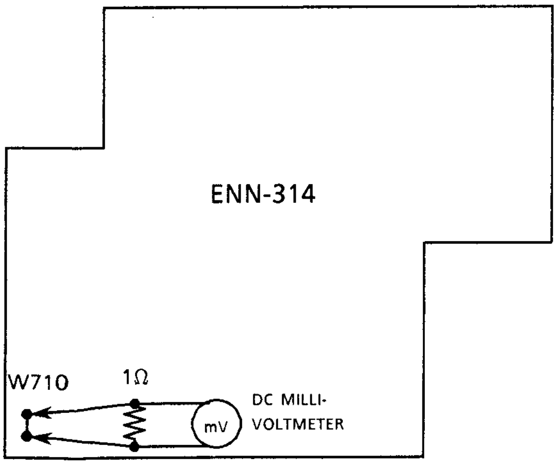
When the life of the laser diode has expired, the following symptoms will appear.

1. The level of RF output (EFM output: amplitude of eye pattern) will be low.
2. The drive current required by the laser diode will be increased.
   In such a case, check the life of the laser diode following the flowchart below


Is RF output more than 1.5 Vp-p?
NO
Replace it.
YES
Is the laser diode drive current less than 120 mA?
NO
Replace it.
YES
O.K.

(2) Measurement of laser diode drive current

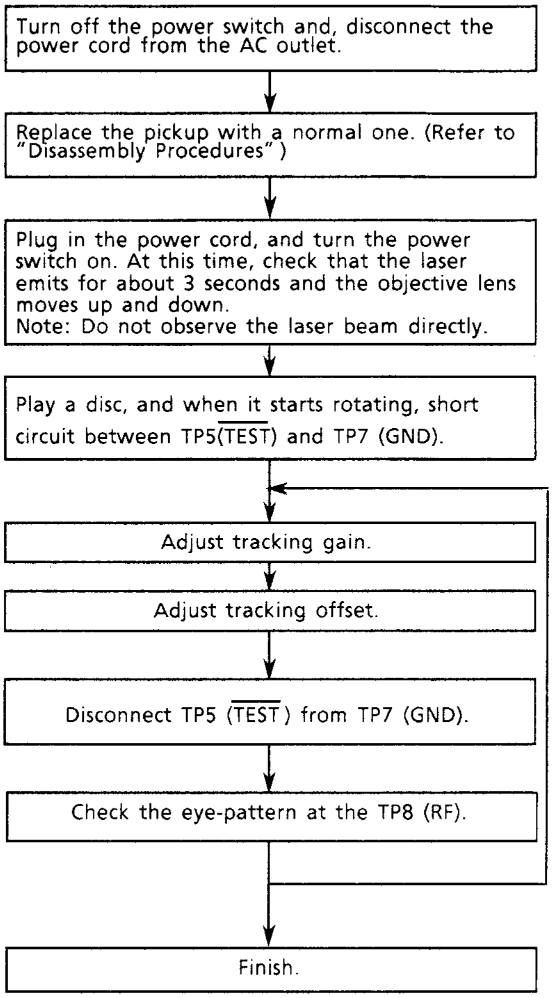
Replace W710 to a resister (1Ω) .
Measure the voltage across the resistor with a milli-voltmeter. When the voltage is more than 180mV, it shows that the life of the laser diode has expired



(3) Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.
If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

Replacement of Laser Pickup



Turn off the power switch and, disconnect the power cord from the AC outlet.

Replace the pickup with a normal one. (Refer to "Disassembly Procedures")

Plug in the power cord, and turn the power switch on. At this time, check that the laser emits for about 3 seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.

Play a disc, and when it starts rotating, short circuit between TP5($\overline{\text{TEST}}$) and TP7 (GND).

Adjust tracking gain.

Adjust tracking offset.

Disconnect TP5 ($\overline{\text{TEST}}$) from TP7 (GND).

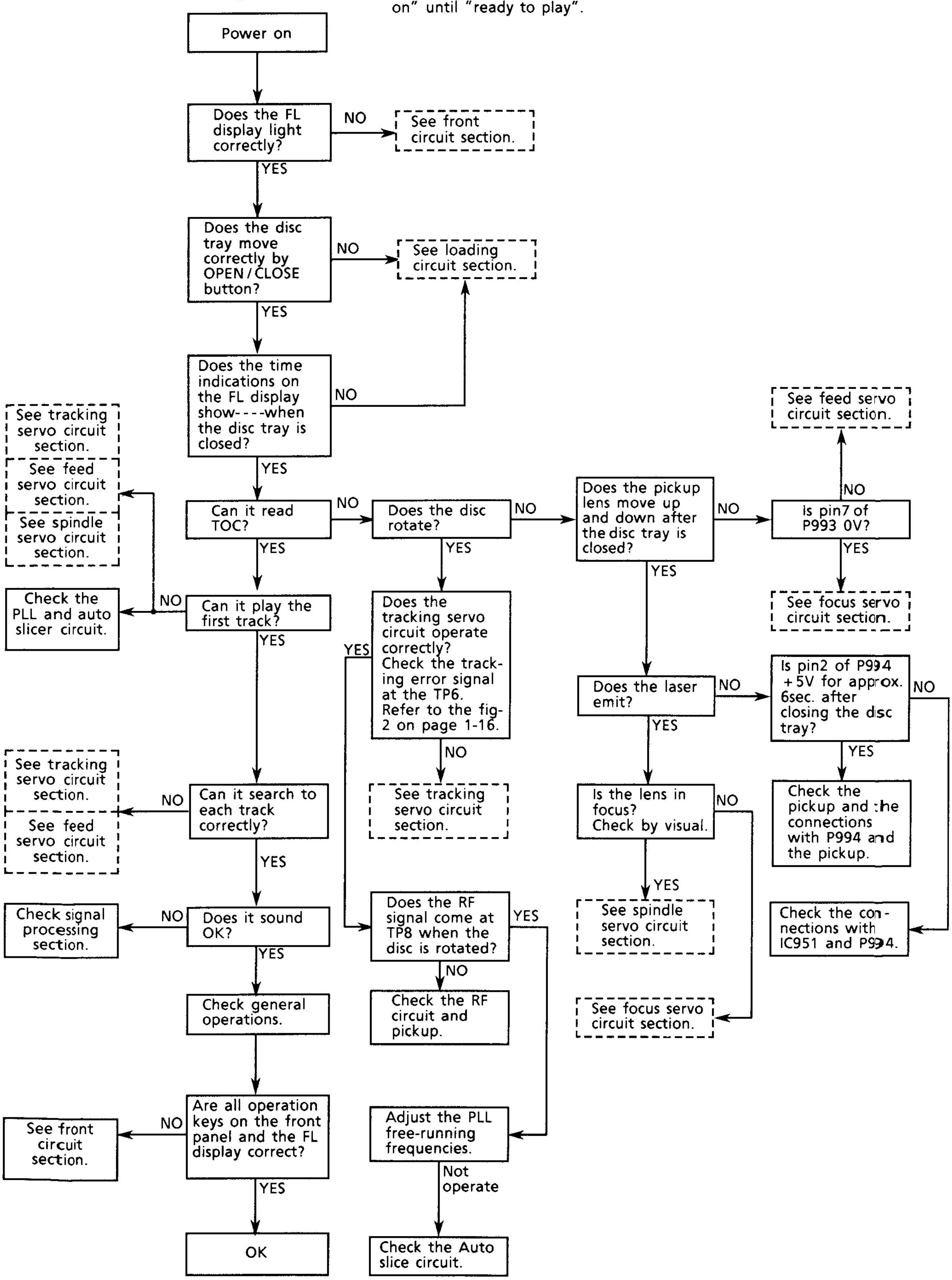
Check the eye-pattern at the TP8 (RF).

Finish.

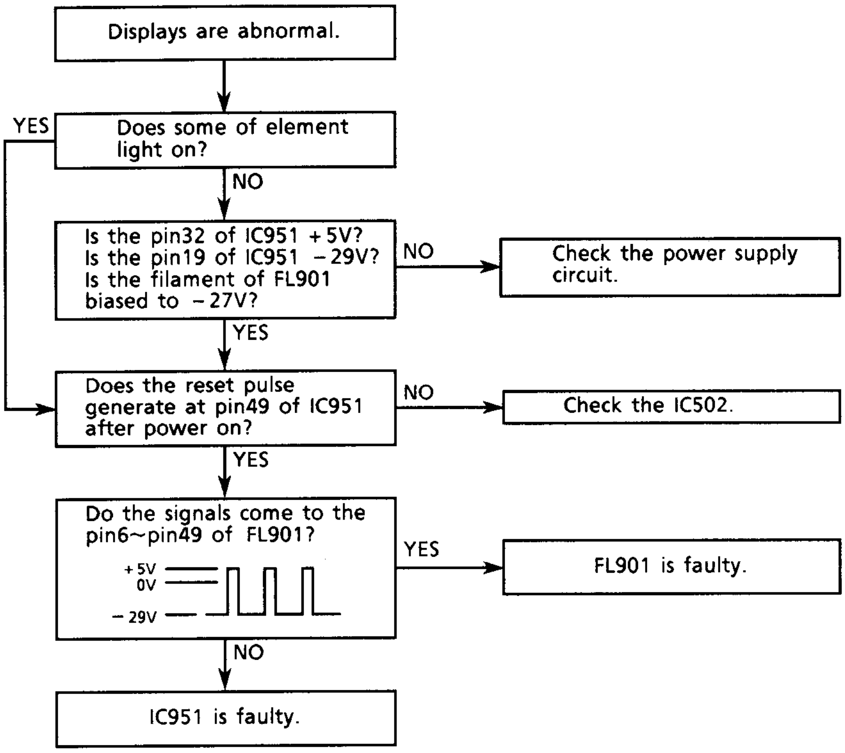
Note: Since one adjustment may affect other settings, repeat these adjustments a few times.

Troubleshooting

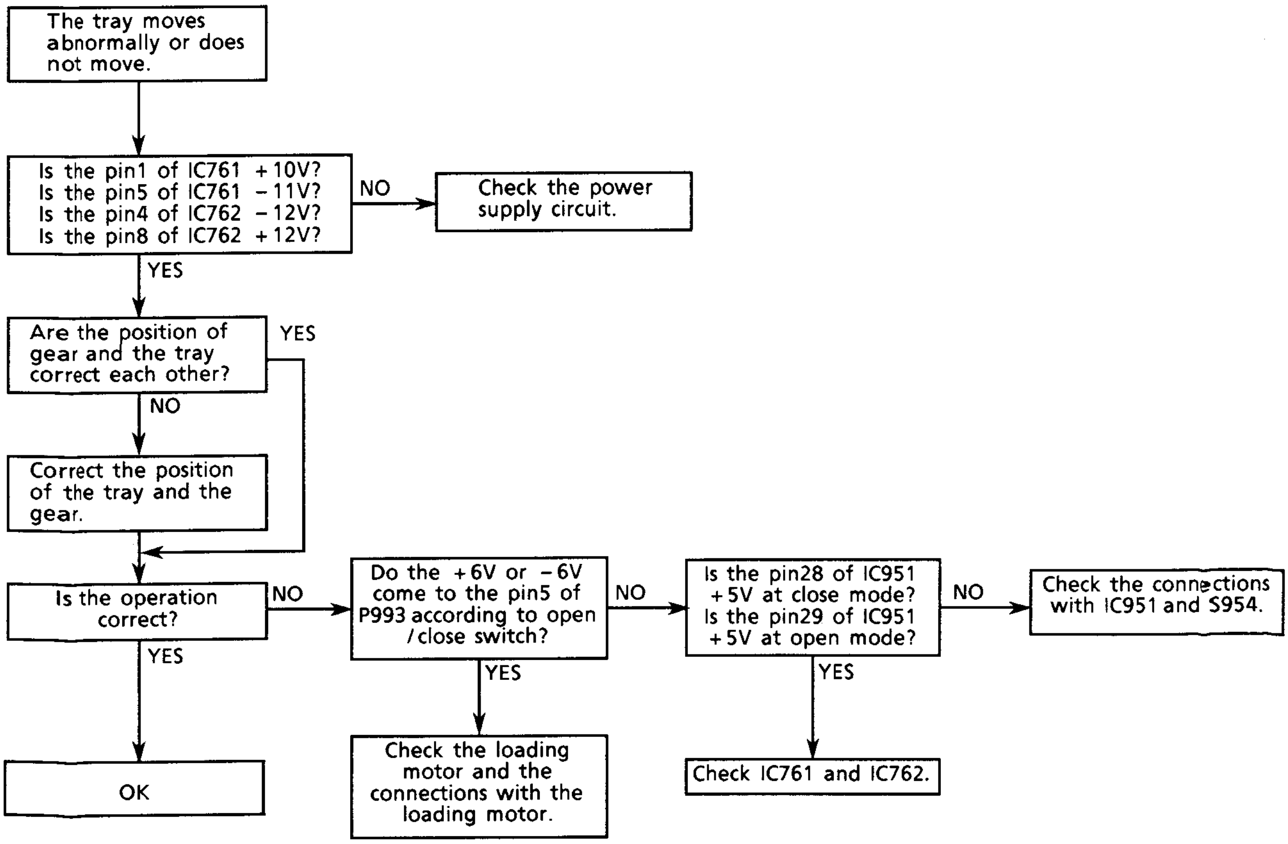
The following flowchart shows each circuit's condition about from "power on" until "ready to play".


Power on
Does the FL display light correctly?
NO
See front circuit section.
YES
Does the disc tray move correctly by OPEN / CLOSE button?
NO
See loading circuit section.
YES
Does the time indications on the FL display show----when the disc tray is closed?
NO
YES
Can it read TOC?
NO
Does the disc rotate?
NO
Does the pickup lens move up and down after the disc tray is closed?
NO
Is pin7 of P993 0V?
NO
See feed servo circuit section.
YES
See focus servo circuit section.
YES
Does the tracking servo circuit operate correctly? Check the tracking error signal at the TP6. Refer to the fig-2 on page 1-16.
NO
See tracking servo circuit section.
YES
Does the laser emit?
NO
Is pin2 of P994 +5V for approx. 6sec. after closing the disc tray?
YES
Check the pickup and the connections with P994 and the pickup.
NO
Check the connections with IC951 and P994.
YES
Is the lens in focus? Check by visual.
NO
See focus servo circuit section.
YES
See spindle servo circuit section.
YES
Can it play the first track?
NO
Check the PLL and auto slicer circuit.
See tracking servo circuit section.
See feed servo circuit section.
See spindle servo circuit section.
YES
Does the RF signal come at TP8 when the disc is rotated?
NO
Check the RF circuit and pickup.
YES
Adjust the PLL free-running frequencies.
Not operate
Check the Auto slice circuit.
YES
Can it search to each track correctly?
NO
See tracking servo circuit section.
See feed servo circuit section.
YES
Does it sound OK?
NO
Check signal processing section.
YES
Check general operations.
Are all operation keys on the front panel and the FL display correct?
NO
See front circuit section.
YES
OK

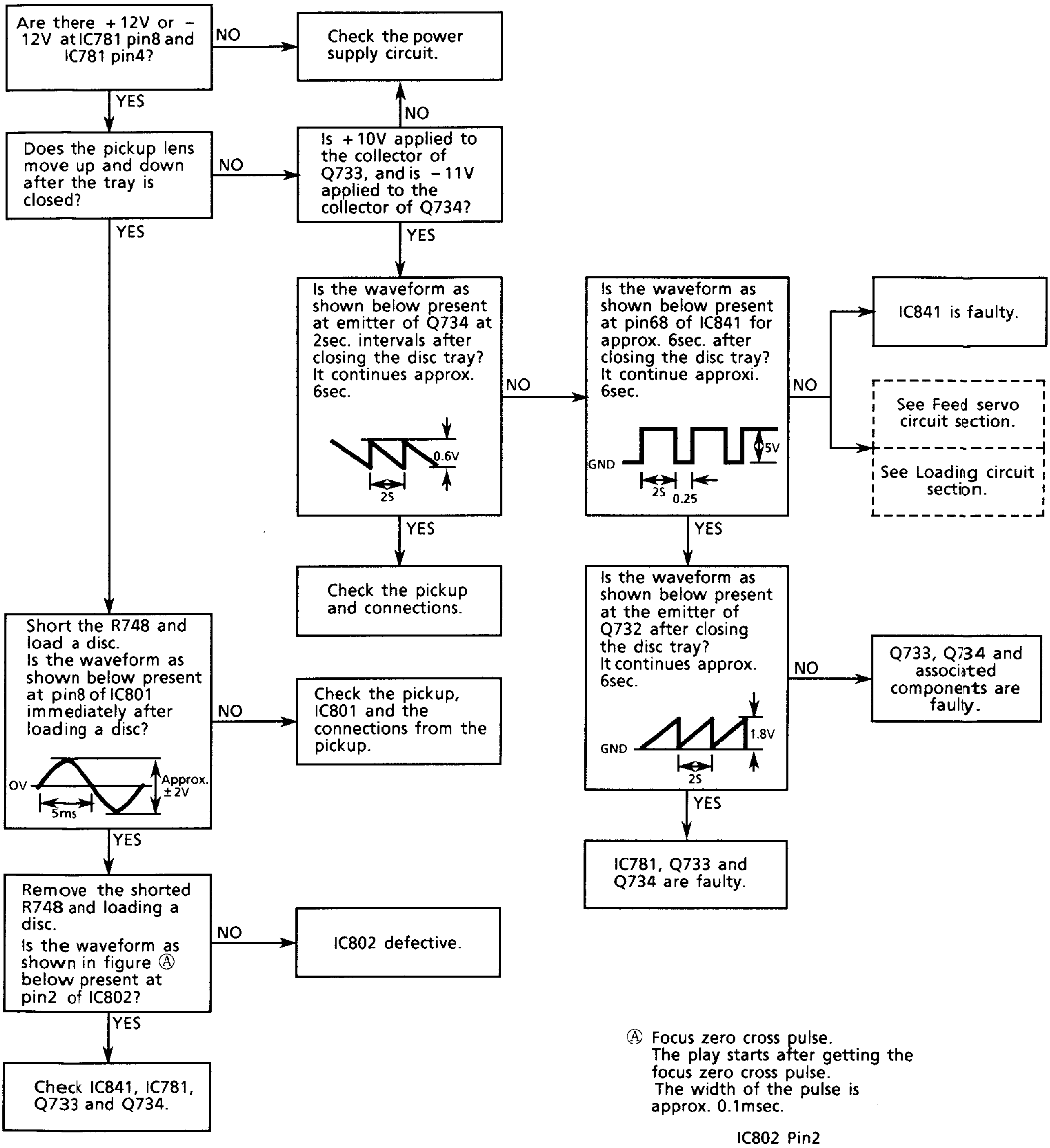
Front circuit Section


Displays are abnormal.
Does some of element light on?
YES
NO
Is the pin32 of IC951 +5V?
Is the pin19 of IC951 −29V?
Is the filament of FL901 biased to −27V?
NO
Check the power supply circuit.
YES
Does the reset pulse generate at pin49 of IC951 after power on?
NO
Check the IC502.
YES
Do the signals come to the pin6~pin49 of FL901?
+5V
0V
−29V
YES
FL901 is faulty.
NO
IC951 is faulty.

Loading circuit section

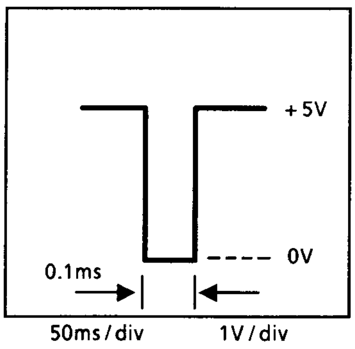

The tray moves abnormally or does not move.
Is the pin1 of IC761 +10V?
Is the pin5 of IC761 −11V?
Is the pin4 of IC762 −12V?
Is the pin8 of IC762 +12V?
NO
Check the power supply circuit.
YES
Are the position of gear and the tray correct each other?
YES
NO
Correct the position of the tray and the gear.
Is the operation correct?
NO
Do the +6V or −6V come to the pin5 of P993 according to open /close switch?
NO
Is the pin28 of IC951 +5V at close mode?
Is the pin29 of IC951 +5V at open mode?
NO
Check the connections with IC951 and S954.
YES
OK
YES
Check the loading motor and the connections with the loading motor.
YES
Check IC761 and IC762.

Focus servo circuit section

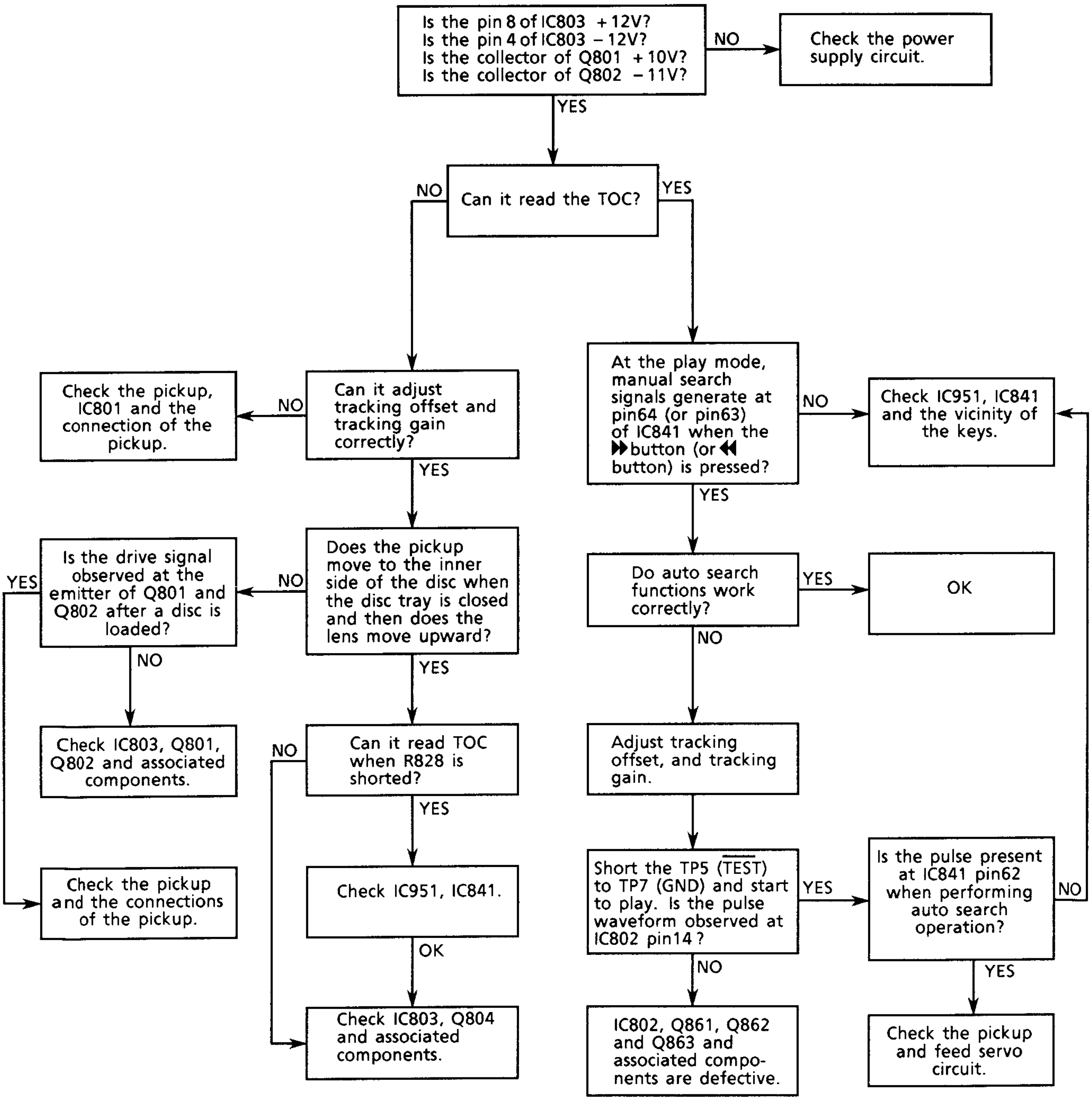

Are there +12V or −12V at IC781 pin8 and IC781 pin4?
NO
Check the power supply circuit.
YES
Does the pickup lens move up and down after the tray is closed?
NO
Is +10V applied to the collector of Q733, and is −11V applied to the collector of Q734?
NO
YES
Is the waveform as shown below present at emitter of Q734 at 2sec. intervals after closing the disc tray? It continues approx. 6sec.
0.6V
2S
NO
Is the waveform as shown below present at pin68 of IC841 for approx. 6sec. after closing the disc tray? It continue approxi. 6sec.
GND
5V
2S
0.25
NO
IC841 is faulty.
See Feed servo circuit section.
See Loading circuit section.
YES
Check the pickup and connections.
YES
Is the waveform as shown below present at the emitter of Q732 after closing the disc tray? It continues approx. 6sec.
GND
1.8V
2S
NO
Q733, Q734 and associated components are faulty.
YES
IC781, Q733 and Q734 are faulty.
YES
Short the R748 and load a disc. Is the waveform as shown below present at pin8 of IC801 immediately after loading a disc?
OV
Approx. ±2V
5ms
NO
Check the pickup, IC801 and the connections from the pickup.
YES
Remove the shorted R748 and loading a disc. Is the waveform as shown in figure Ⓐ below present at pin2 of IC802?
NO
IC802 defective.
YES
Check IC841, IC781, Q733 and Q734.

Ⓐ Focus zero cross pulse.
The play starts after getting the focus zero cross pulse.
The width of the pulse is approx. 0.1msec.

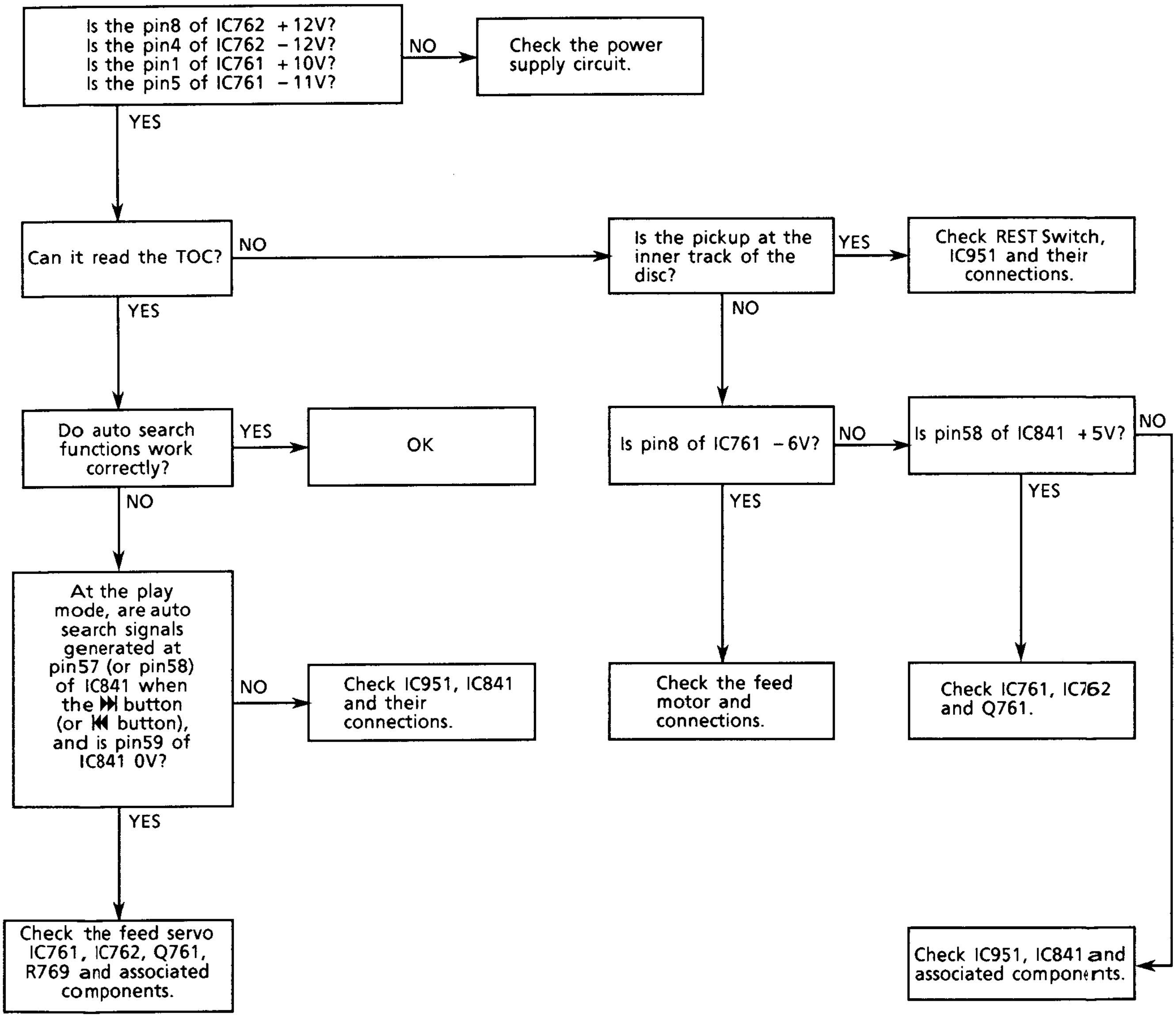
IC802 Pin2


+5V
0V
0.1ms
50ms/div
1V/div

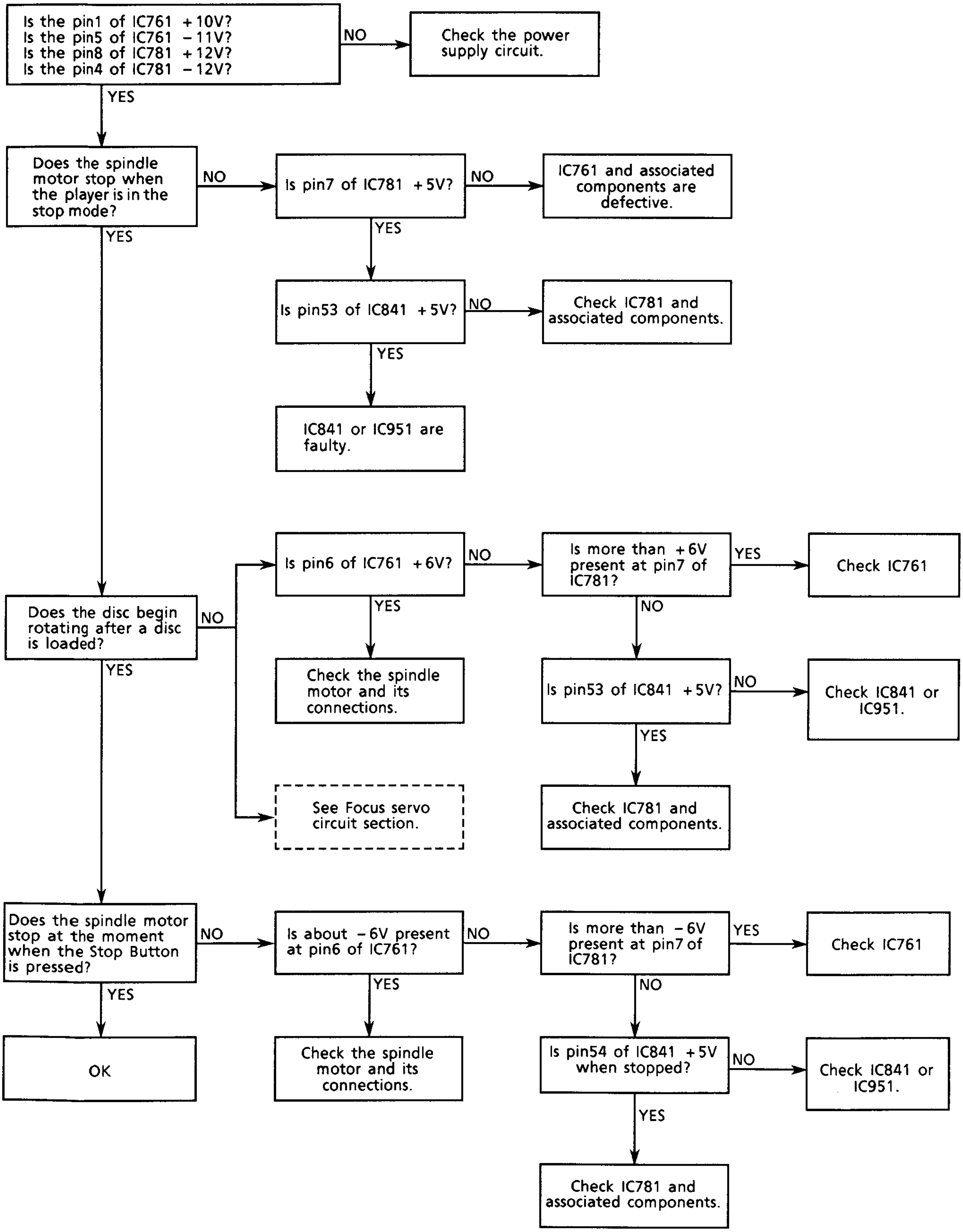
Tracking servo circuit section


Is the pin 8 of IC803 +12V?
Is the pin 4 of IC803 −12V?
Is the collector of Q801 +10V?
Is the collector of Q802 −11V?
NO
Check the power supply circuit.
YES
Can it read the TOC?
NO
YES
Can it adjust tracking offset and tracking gain correctly?
NO
Check the pickup, IC801 and the connection of the pickup.
YES
Does the pickup move to the inner side of the disc when the disc tray is closed and then does the lens move upward?
NO
Is the drive signal observed at the emitter of Q801 and Q802 after a disc is loaded?
YES
Check the pickup and the connections of the pickup.
NO
Check IC803, Q801, Q802 and associated components.
YES
Can it read TOC when R828 is shorted?
NO
YES
Check IC951, IC841.
OK
Check IC803, Q804 and associated components.
At the play mode, manual search signals generate at pin64 (or pin63) of IC841 when the ⏩ button (or ⏪ button) is pressed?
NO
Check IC951, IC841 and the vicinity of the keys.
YES
Do auto search functions work correctly?
YES
OK
NO
Adjust tracking offset, and tracking gain.
Short the TP5 (TEST) to TP7 (GND) and start to play. Is the pulse waveform observed at IC802 pin14?
YES
Is the pulse present at IC841 pin62 when performing auto search operation?
NO
YES
Check the pickup and feed servo circuit.
NO
IC802, Q861, Q862 and Q863 and associated components are defective.

Feed servo circuit section

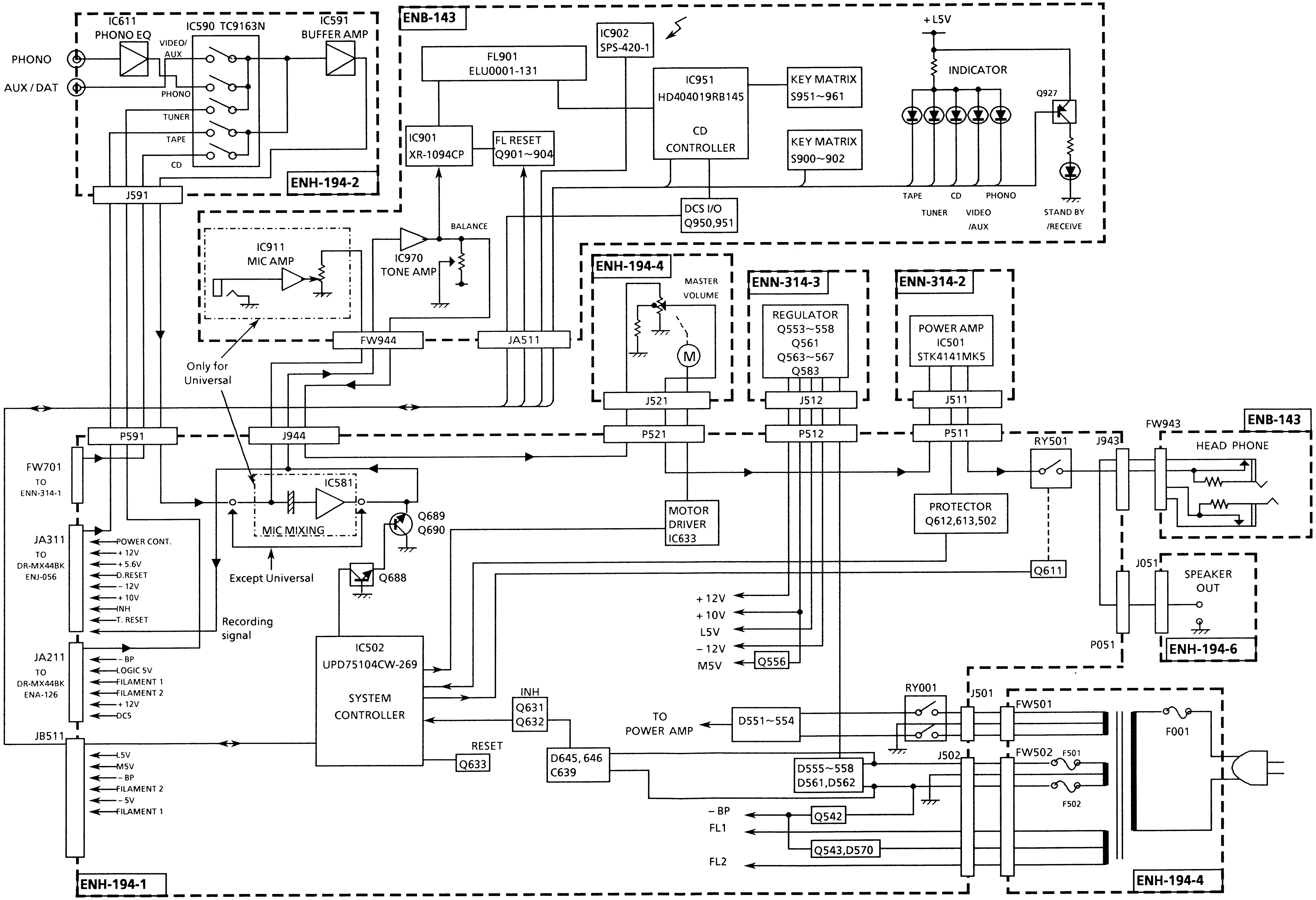

Is the pin8 of IC762 +12V?
Is the pin4 of IC762 −12V?
Is the pin1 of IC761 +10V?
Is the pin5 of IC761 −11V?
NO
Check the power supply circuit.
YES
Can it read the TOC?
NO
Is the pickup at the inner track of the disc?
YES
Check REST Switch, IC951 and their connections.
NO
YES
Do auto search functions work correctly?
YES
OK
Is pin8 of IC761 −6V?
NO
Is pin58 of IC841 +5V?
NO
NO
YES
YES
At the play mode, are auto search signals generated at pin57 (or pin58) of IC841 when the ⏭ button (or ⏮ button), and is pin59 of IC841 0V?
NO
Check IC951, IC841 and their connections.
Check the feed motor and connections.
Check IC761, IC762 and Q761.
YES
Check the feed servo IC761, IC762, Q761, R769 and associated components.
Check IC951, IC841 and associated components.

Spindle servo circuit section

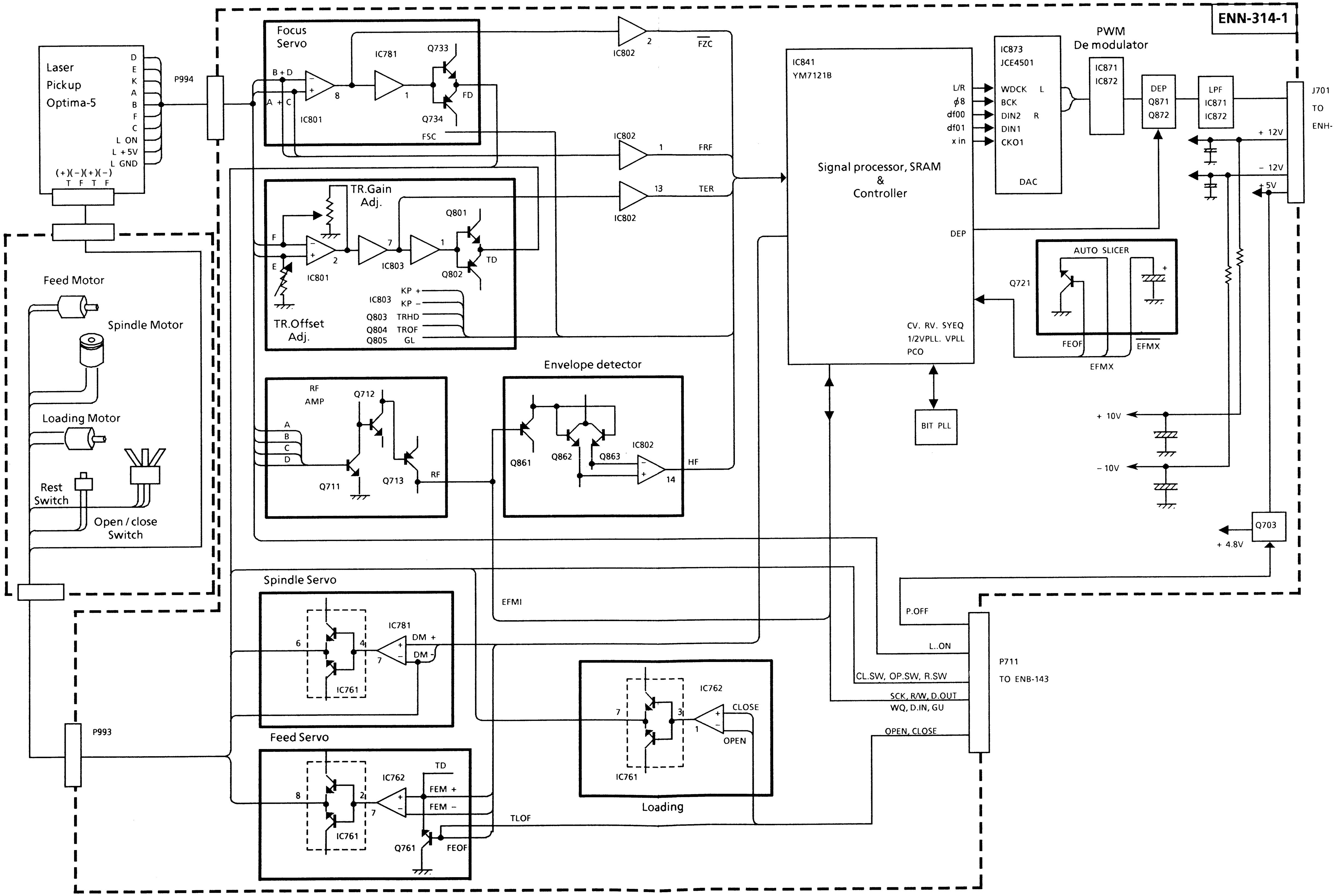

Is the pin1 of IC761 +10V?
Is the pin5 of IC761 −11V?
Is the pin8 of IC781 +12V?
Is the pin4 of IC781 −12V?
NO
Check the power supply circuit.
YES
Does the spindle motor stop when the player is in the stop mode?
NO
Is pin7 of IC781 +5V?
NO
IC761 and associated components are defective.
YES
Is pin53 of IC841 +5V?
NO
Check IC781 and associated components.
YES
IC841 or IC951 are faulty.
YES
Does the disc begin rotating after a disc is loaded?
NO
Is pin6 of IC761 +6V?
NO
Is more than +6V present at pin7 of IC781?
YES
Check IC761
NO
Is pin53 of IC841 +5V?
NO
Check IC841 or IC951.
YES
Check IC781 and associated components.
YES
Check the spindle motor and its connections.
See Focus servo circuit section.
YES
Does the spindle motor stop at the moment when the Stop Button is pressed?
NO
Is about −6V present at pin6 of IC761?
NO
Is more than −6V present at pin7 of IC781?
YES
Check IC761
NO
Is pin54 of IC841 +5V when stopped?
NO
Check IC841 or IC951.
YES
Check IC781 and associated components.
YES
Check the spindle motor and its connections.
YES
OK

Block Diagrams

■ Audio Section

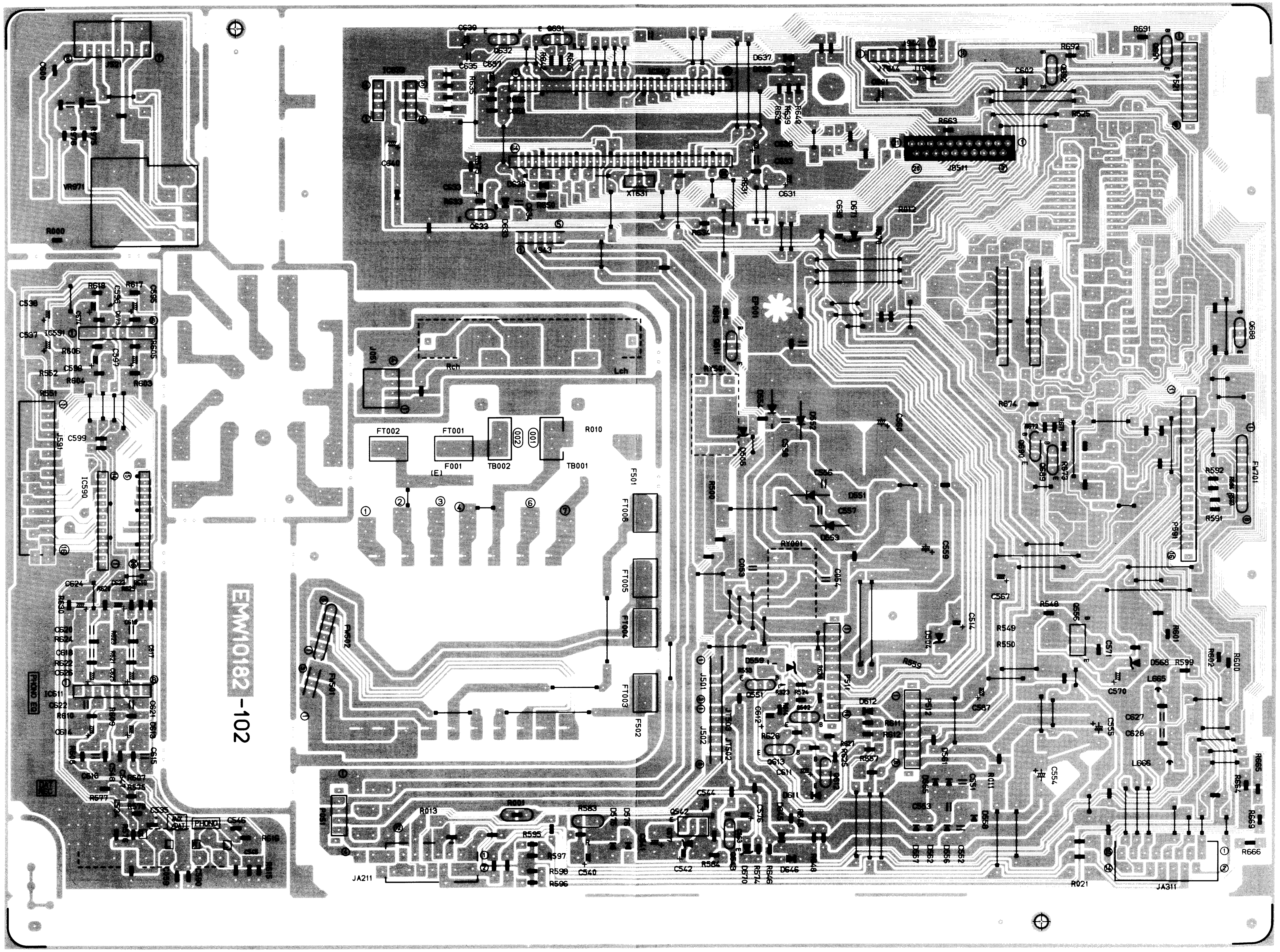

PHONO
AUX / DAT
IC611
PHONO EQ
IC590 TC9163N
VIDEO/
AUX
PHONO
TUNER
TAPE
CD
IC591
BUFFER AMP
ENH-194-2
J591
ENB-143
FL901
ELU0001-131
IC902
SPS-420-1
IC951
HD404019RB145
CD
CONTROLLER
KEY MATRIX
S951~961
KEY MATRIX
S900~902
IC901
XR-1094CP
FL RESET
Q901~904
DCS I/O
Q950,951
+L5V
INDICATOR
Q927
TAPE
CD
PHONO
TUNER
VIDEO
/AUX
STAND BY
/RECEIVE
IC911
MIC AMP
IC970
TONE AMP
BALANCE
FW944
JA511
Only for
Universal
ENH-194-4
MASTER
VOLUME
M
J521
P521
ENN-314-3
REGULATOR
Q553~558
Q561
Q563~567
Q583
J512
P512
ENN-314-2
POWER AMP
IC501
STK4141MK5
J511
P511
P591
J944
FW701
TO
ENN-314-1
IC581
MIC MIXING
Q689
Q690
Q688
Except Universal
MOTOR
DRIVER
IC633
PROTECTOR
Q612,613,502
RY501
J943
FW943
ENB-143
HEAD PHONE
Q611
J051
SPEAKER
OUT
P051
ENH-194-6
JA311
TO
DR-MX44BK
ENJ-056
POWER CONT.
+12V
+5.6V
D.RESET
−12V
+10V
INH
T. RESET
Recording
signal
JA211
TO
DR-MX44BK
ENA-126
−BP
LOGIC 5V
FILAMENT 1
FILAMENT 2
+12V
DCS
JB511
L5V
M5V
−BP
FILAMENT 2
−5V
FILAMENT 1
IC502
UPD75104CW-269
SYSTEM
CONTROLLER
INH
Q631
Q632
RESET
Q633
D645, 646
C639
+12V
+10V
L5V
−12V
M5V
Q556
TO
POWER AMP
D551~554
D555~558
D561,D562
RY001
J501
FW501
J502
FW502
F501
F502
F001
−BP
FL1
FL2
Q542
Q543,D570
ENH-194-1
ENH-194-4

■ CD Section

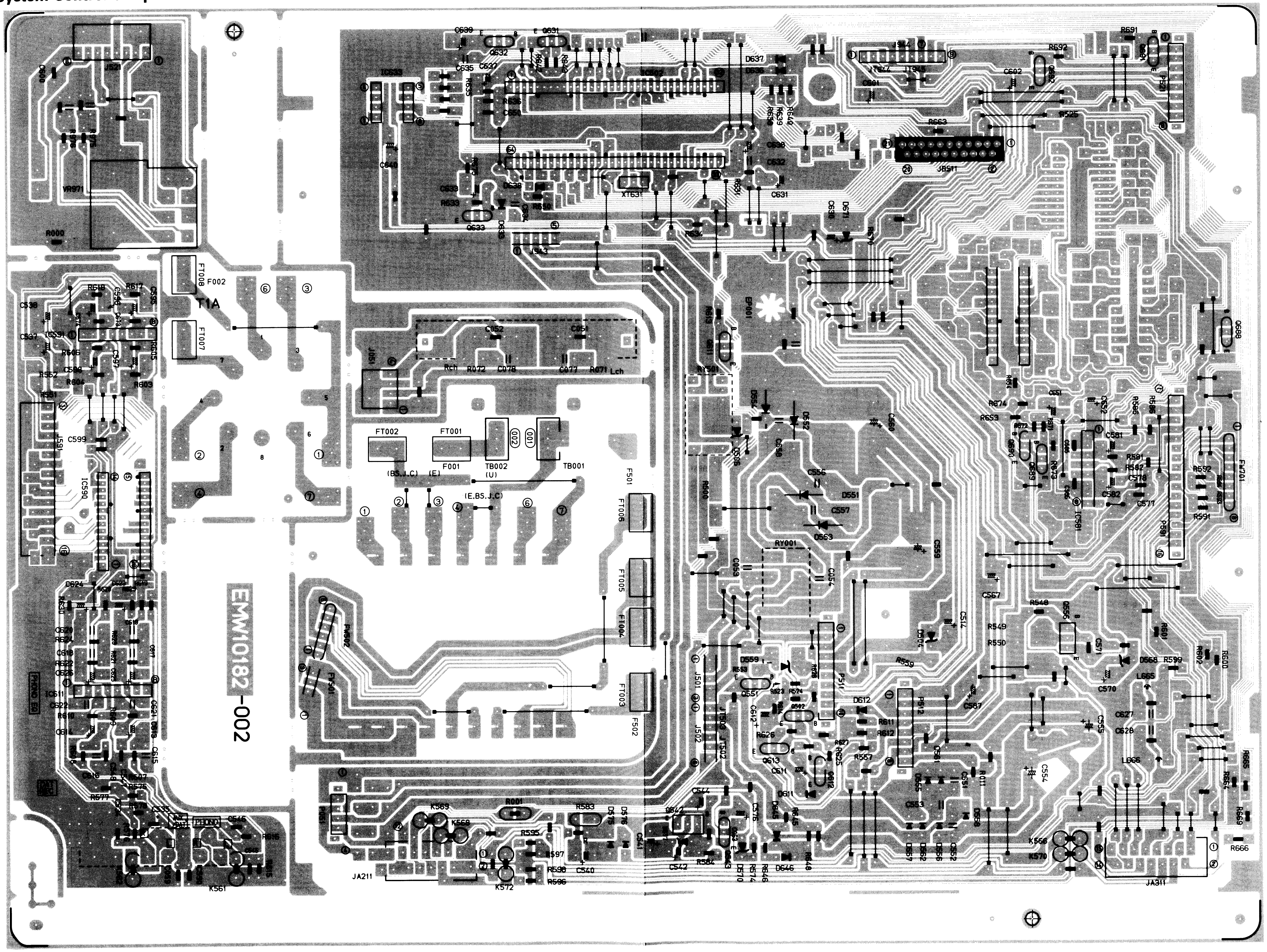

ENN-314-1
Laser Pickup Optima-5
D
E
K
A
B
F
C
L ON
L +5V
L GND
(+)(−)(+)(−)
T F T F
P994
Focus Servo
B+D
A+C
IC781
Q733
IC801
FD
Q734
FSC
IC802
FZC
FRF
TER
TR.Gain Adj.
Q801
IC803
Q802
TD
TR.Offset Adj.
KP +
KP −
TRHD
TROF
GL
Q803
Q804
Q805
RF AMP
Q712
Q711
Q713
RF
Envelope detector
Q861
Q862
Q863
HF
IC841 YM7121B
L/R
ϕ8
df00
df01
x in
Signal processor, SRAM & Controller
DEP
CV. RV. SYEQ
1/2VPLL. VPLL
PCO
BIT PLL
IC873 JCE4501
WDCK L
BCK
DIN2 R
DIN1
CKO1
DAC
PWM De modulator
IC871
IC872
DEP
Q871
Q872
LPF
J701 TO ENH-194
+ 12V
− 12V
+5V
AUTO SLICER
Q721
FEOF
EFMX
+ 10V
− 10V
Q703
+ 4.8V
Feed Motor
Spindle Motor
Loading Motor
Rest Switch
Open / close Switch
Spindle Servo
IC781
DM +
DM −
IC761
EFMI
P.OFF
L..ON
CL.SW, OP.SW, R.SW
SCK, R/W, D.OUT
WQ, D.IN, GU
OPEN, CLOSE
P711 TO ENB-143
IC762
CLOSE
OPEN
Loading
P993
Feed Servo
TD
FEM +
FEM −
TLOF
Q761
FEOF

Printed Circuit Boards

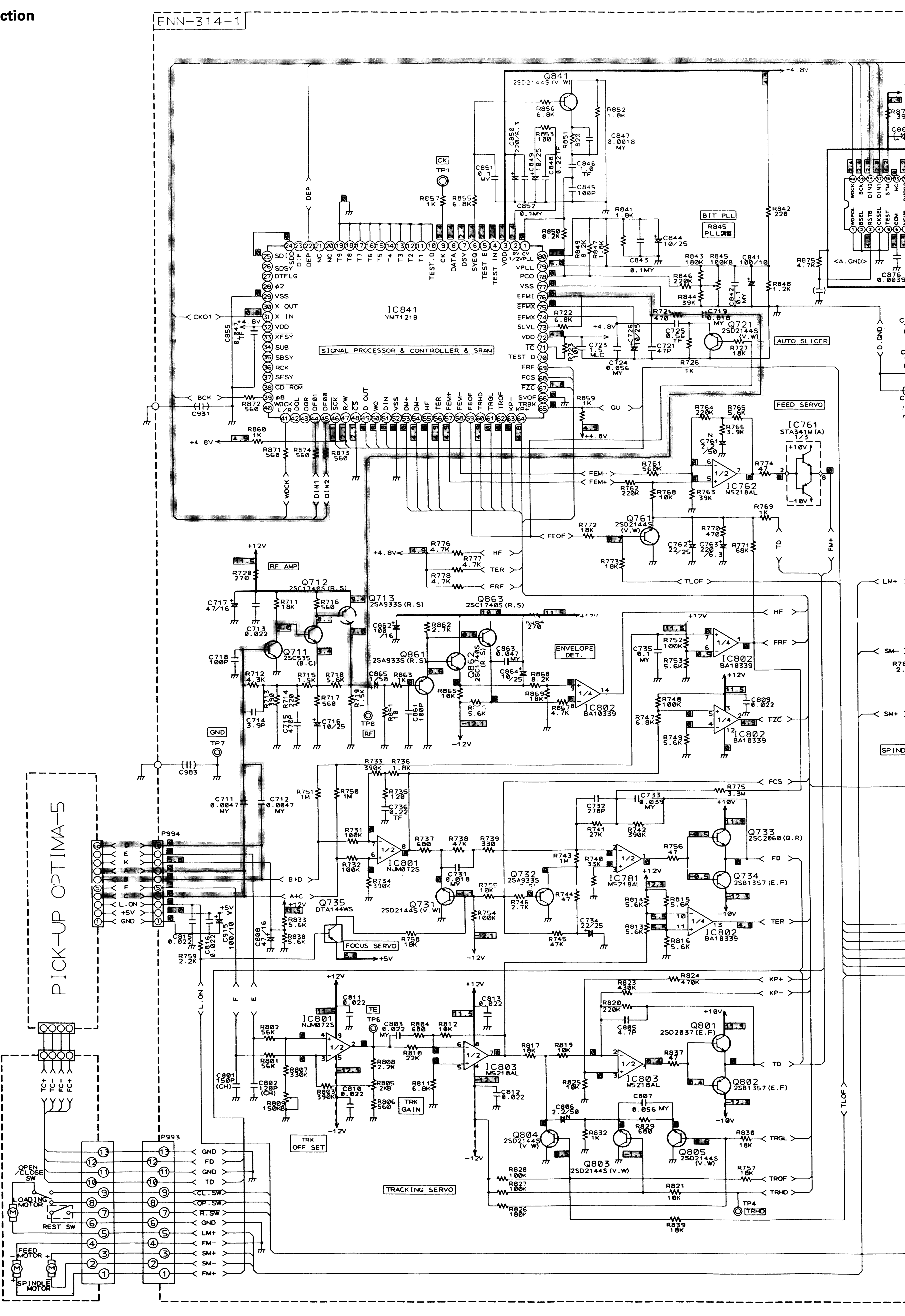
■ System Control & Input Selector PCB (ENH-194) For the U.S. and Canada


EMW10182-102
VR971
R000
C536
C537
IC591
R606
R552
R604
R603
R551
J591
C599
IC590
C624
PHONO EQ
IC611
C622
C614
C546
R616
PHONO
JA211
R013
R001
R595
R597
R598
R596
C540
R583
C542
R582
D646
J501
J502
FW502
FW501
P501
FT002
FT001
F001
(E)
TB002
TB001
R010
002
001
F501
FT006
FT005
FT004
FT003
F502
J501
Rch
Lch
①
②
③
④
⑥
⑦
RY501
RY001
EP001
R500
C559
C556
D551
C557
D553
C550
C514
C567
R548
R549
R550
C556
C571
D568
R599
R601
R602
R600
L665
C570
C627
C628
C555
L666
C554
R011
R665
R669
R666
R021
JA311
P512
D612
R611
R612
R557
P591
FW701
R552
R591
Q668
R674
C539
C635
C651
R635
C640
C633
D633
C630
C631
D637
R639
R640
X1631
J643
R663
R626
J8511
C602
Q692
R692
R691
R612
D671

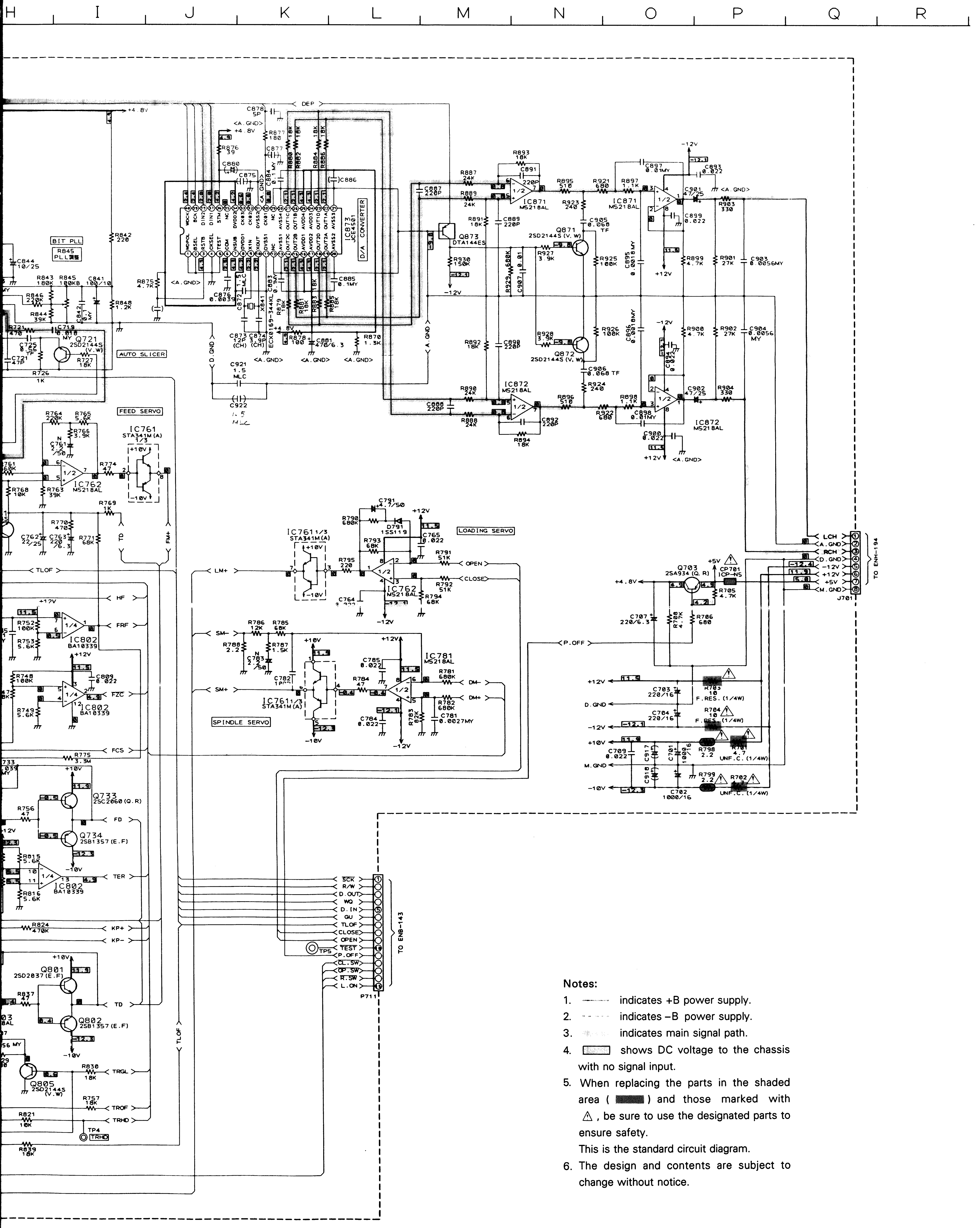
■ System Control & Input Selector PCB (ENH-194)


EMW10182-002
T1A
F002
FT008
FT007
FT002
FT001
F001
TB002
(U)
TB001
(BS,J,C)
(E)
(E,BS,J,C)
F501
FT006
FT005
FT004
FT003
F502
J051
C052
C051
Rch
R072
C078
C077
R071
Lch
VR971
R000
J591
IC590
C599
IC611
PHONO EQ
J511
JBS11
XT631
IC633
C640
EP001
RY501
RY001
D551
D553
C556
C557
C559
C560
P511
P512
P591
IC581
FW701
FW502
FW501
P501
JA211
JA311
K569
K568
K561
K572
K556
K570
R001
R583
R595
R597
R598
R596
C540
C542
R584
D646
R646
C554
C555
L665
L666
R666
R591
R592
C502
R525
R663
R653
R674
C581
C582
C570
C577
Q556
D568
R599
R601
R602
R600
C570
C627
C628
R665
R664
R669
J501
J502
J1502
Q551
Q612
Q613
D612
D559
R549
R550
C567
R548
C514
D504
Q698

(3) CD Section



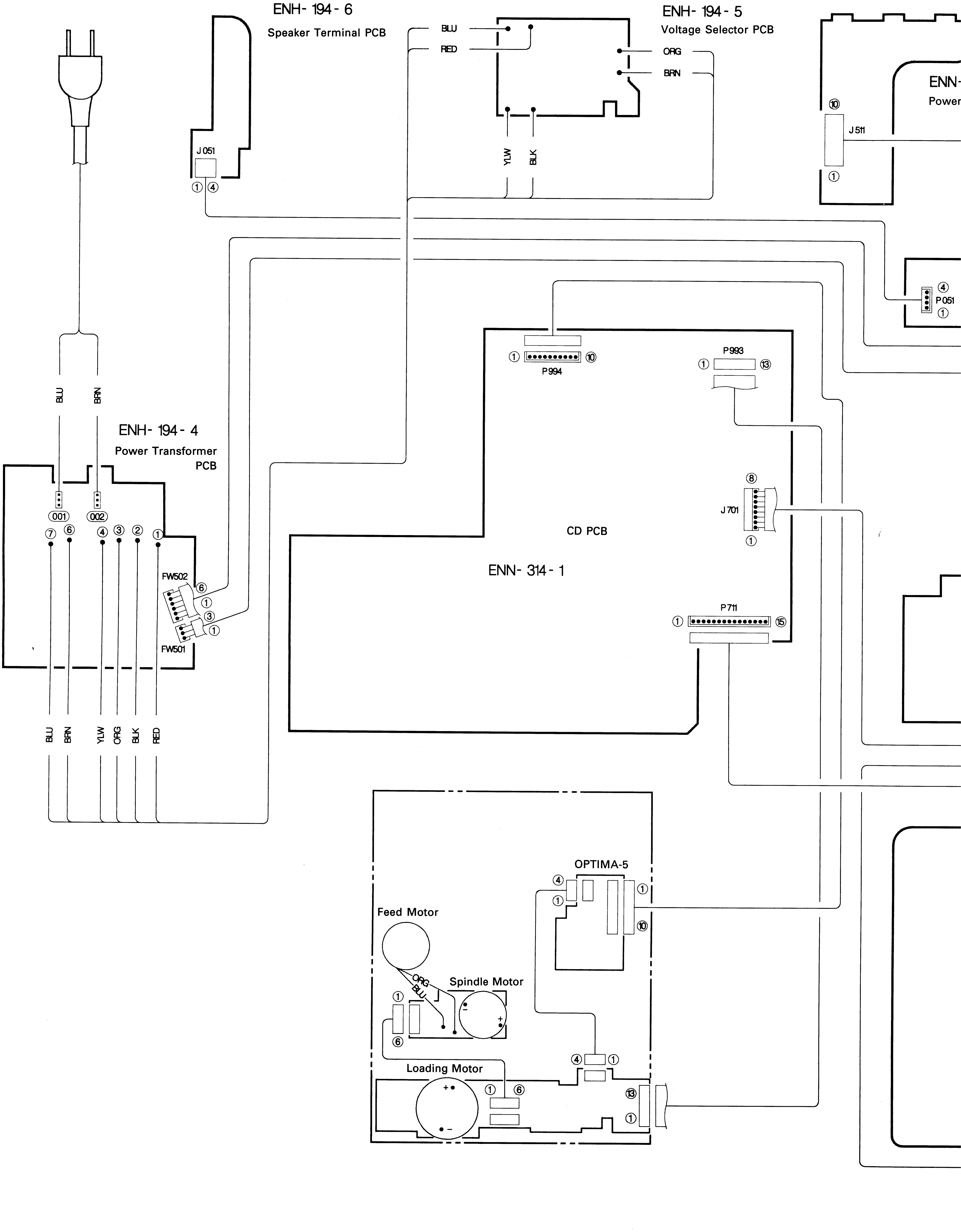
A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
8
9
10
11
12
13
ENN-314-1
IC841
YM7121B
SIGNAL PROCESSOR & CONTROLLER & SRAM
Q841
2SD2144S(V.W)
CK
TP1
BIT PLL
R845
PLL
AUTO SLICER
Q721
2SD2144S (V.W)
FEED SERVO
IC761
STA341M(A)
1/3
IC762
M5218AL
Q761
2SD2144S (V.W)
RF AMP
Q712
2SC1740S(R.S)
Q713
2SA933S(R.S)
Q711
2SC535 (B.C)
Q863
2SC1740S(R.S)
Q861
2SA933S(R.S)
Q862
2SC1740S (R.S)
ENVELOPE DET.
IC802
BA10339
TP8
RF
GND
TP7
PICK-UP OPTIMA-5
P994
D
E
K
A
B
F
C
L.ON
+5V
GND
IC801
NJM072S
Q731
2SD2144S(V.W)
Q732
2SA933S
Q735
DTA144WS
FOCUS SERVO
IC781
M5218AL
Q733
2SC2060(Q.R)
Q734
2SB1357(E.F)
IC803
M5218AL
TE
TP6
TRK GAIN
TRK OFF SET
TRACKING SERVO
Q801
2SD2037(E.F)
Q802
2SB1357(E.F)
Q804
2SD2144S (V.W)
Q803
2SD2144S(V.W)
Q805
2SD2144S (V.W)
TP4
TRHD
P993
GND
FD
GND
TD
CL.SW
OP.SW
R.SW
GND
LM+
FM-
SM+
SM-
FM+
OPEN /CLOSE SW
LOADING MOTOR
REST SW
FEED MOTOR
SPINDLE MOTOR
TC+
TC-
FC-
FC+
DEP
WDCK
DIN1
DIN2
CKO1
BCK
+4.8V
+12V
-12V
+5V
HF
TER
FRF
FCS
FZC
FEM-
FEM+
FEOF
TLOF
GU
TD
FM+
KP+
KP-
TRGL
TROF
TRHD
B+D
A+C
L.ON
F
E

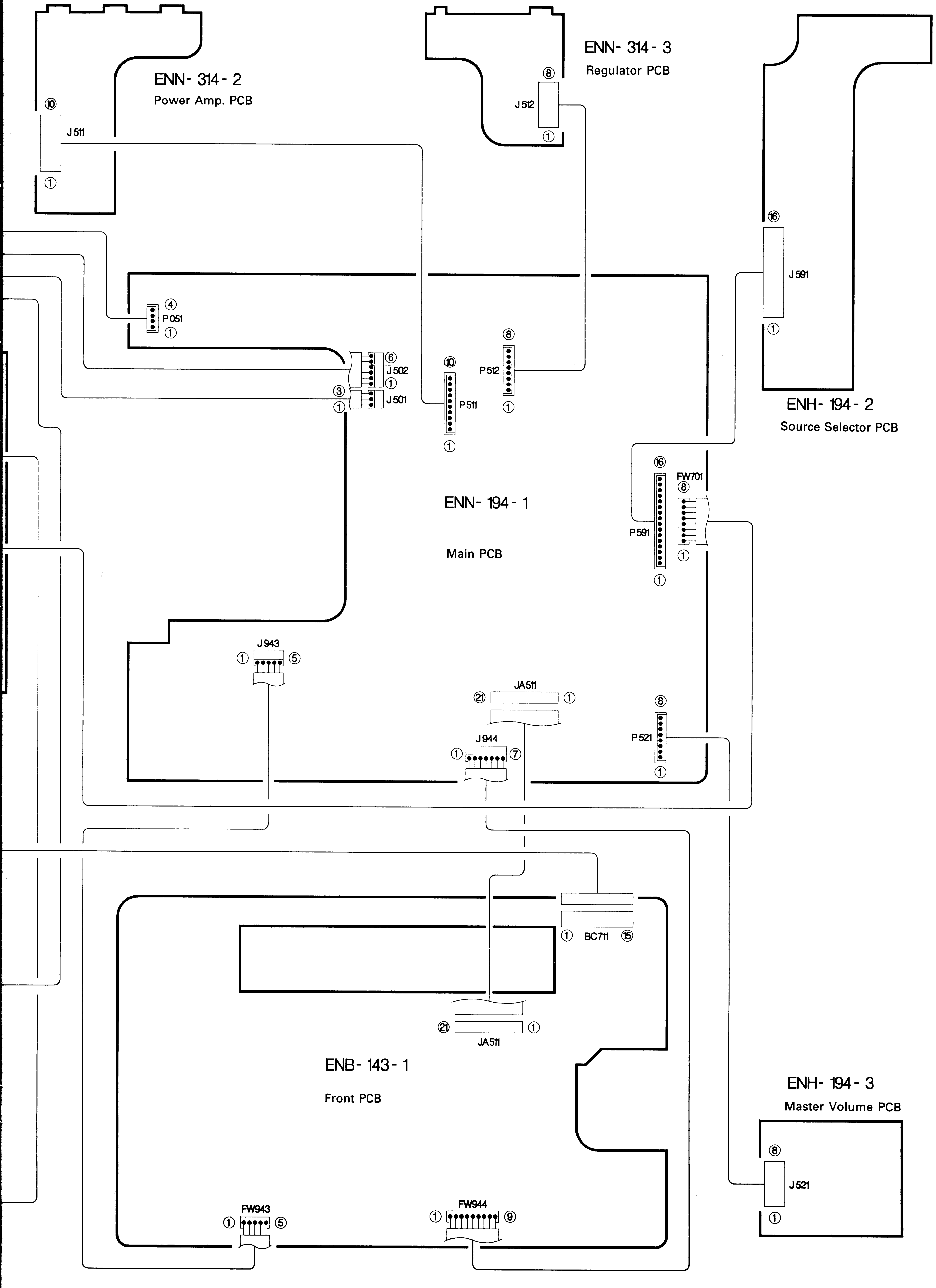

H
I
J
K
L
M
N
O
P
Q
R
IC873 JCE4501 D/A CONVERTER
IC871 M5218AL
IC872 M5218AL
Q871 2SD2144S (V, W)
Q872 2SD2144S (V, W)
Q873 DTA144ES
BIT PLL
AUTO SLICER
Q721 2SD2144S (V, W)
FEED SERVO
IC761 STA341M (A) 1/3
IC762 M5218AL
LOADING SERVO
IC761 1/3 STA341M (A)
D791 1SS119
SPINDLE SERVO
IC781 M5218AL
IC802 BA10339
Q733 2SC2060 (Q.R)
Q734 2SB1357 (E.F)
Q801 2SD2037 (E.F)
Q802 2SB1357 (E.F)
Q805 2SD2144S (V.W)
Q703 2SA934 (Q, R)
CP701 ICP-N5
LCH
A.GND
RCH
D.GND
-12V
+12V
+5V
M.GND
J701
TO ENH-194
SCK
R/W
D.OUT
WQ
D.IN
GU
TLOF
CLOSE
OPEN
TEST
P.OFF
CL.SW
OP.SW
R.SW
L.ON
P711
TO ENB-143
TP5
TP4
TRHD
DEP
OPEN
CLOSE
LM+
SM-
SM+
DM-
DM+
HF
FRF
FZC
FCS
FD
TER
KP+
KP-
TD
TRGL
TROF
TRHD
F.RES. (1/4W)
UNF.C. (1/4W)

Notes:

1. ——— indicates +B power supply.
2. - - - - indicates –B power supply.
3. ▨ indicates main signal path.
4. ☐ shows DC voltage to the chassis with no signal input.
5. When replacing the parts in the shaded area (■) and those marked with ⚠, be sure to use the designated parts to ensure safety.
   This is the standard circuit diagram.
6. The design and contents are subject to change without notice.

Connection Diagram


ENH- 194- 6
Speaker Terminal PCB
BLU
RED
ENH- 194- 5
Voltage Selector PCB
ORG
BRN
YLW
BLK
J051
① ④
ENN-
Power
⑩
J511
①
④
P051
①
① P994 ⑩
① P993 ⑬
BLU
BRN
ENH- 194- 4
Power Transformer PCB
001
002
⑦ ⑥ ④ ③ ② ①
FW502
⑥
①
③
①
FW501
⑧
J701
①
CD PCB
ENN- 314- 1
P711
① ⑮
BLU
BRN
YLW
ORG
BLK
RED
OPTIMA-5
④
①
①
⑩
Feed Motor
ORG
BLU
Spindle Motor
①
⑥
④ ①
Loading Motor
① ⑥
⑬
①


ENN- 314 - 2
Power Amp. PCB
⑩
J 511
①
ENN- 314 - 3
Regulator PCB
⑧
J 512
①
⑯
J 591
①
ENH- 194 - 2
Source Selector PCB
④
P 051
①
⑥
J 502
①
③
J 501
①
⑩
P 511
①
⑧
P 512
①
ENN- 194 - 1
Main PCB
⑯
P 591
①
FW701
⑧
①
J 943
①
⑤
JA511
㉑
①
J 944
①
⑦
⑧
P 521
①
① BC711 ⑮
㉑
①
JA511
ENB- 143 - 1
Front PCB
ENH- 194 - 3
Master Volume PCB
⑧
J 521
①
FW943
①
⑤
FW944
①
⑨

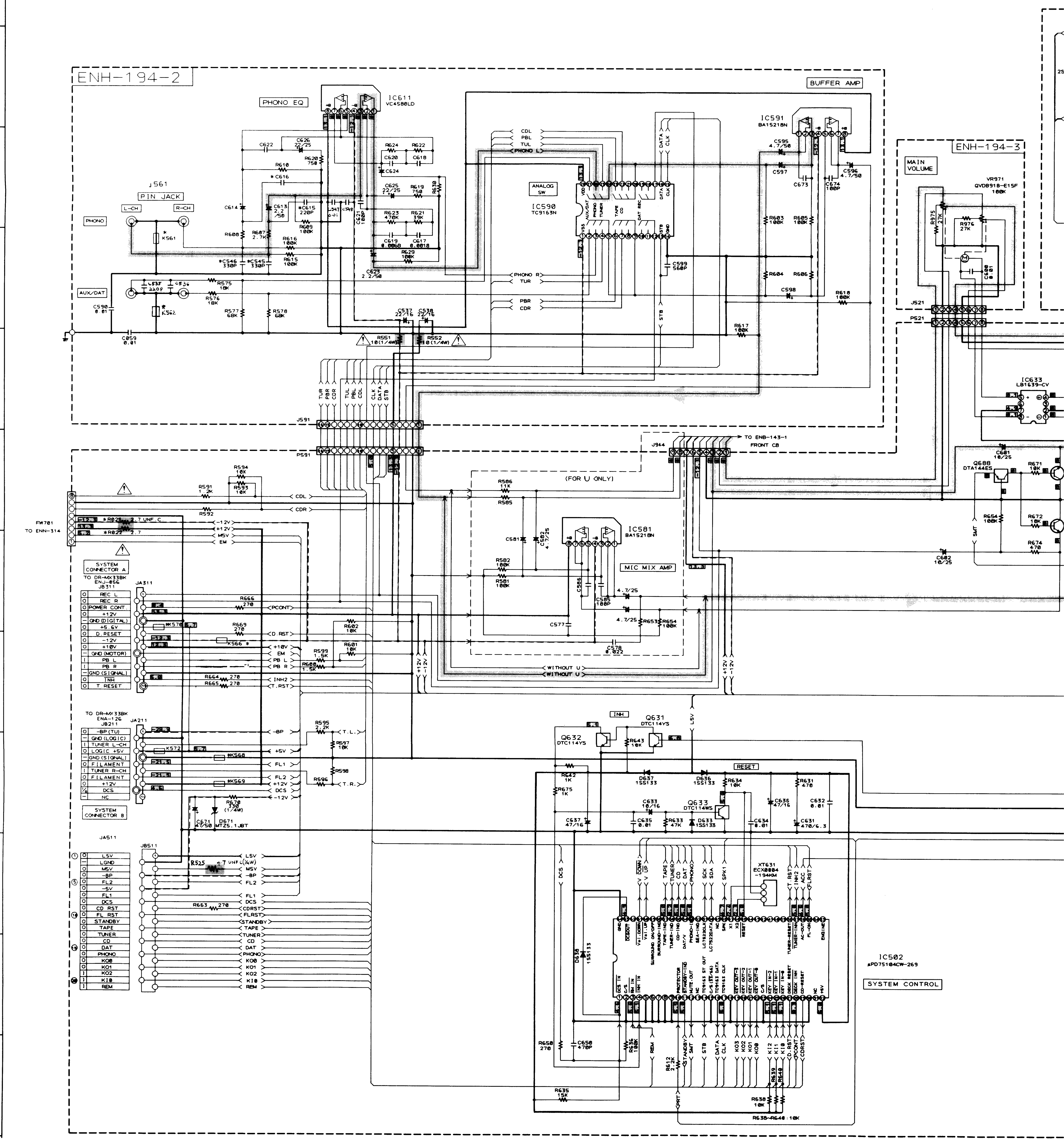
Schematic Diagrams

(1) Input Selector, System Control, Power Supply and Power Amplifier Section

SYMBOL	J	C	U	EN, EF, A, V, VX, BS	G, GI
F501, F502	1.6A−125V	1.6A−125V	T1.25A	T1.25A	T1.25A
C051, C052	NONE	NONE	NONE	NONE	USED
R071, R072	NONE	NONE	NONE	NONE	USED
C083, C084	NONE	NONE	NONE	NONE	USED
C077, C078	NONE	NONE	NONE	NONE	USED
C537, C538	NONE	NONE	NONE	NONE	USED
K539	SHORT	SHORT	NONE	NONE	USED
R530, R517, R541	UNF.C.	UNF.C.	UNF.F.	UNF.F.	UNF.F.

SYMBOL	J	C	U	EN, EF, A, V, VX, BS	G, GI
R518	UNF.C.	UNF.F.	UNF.F.	UNF.F.	UNF.F.
C590	NONE	NONE	NONE	USED	USED
C556, C557, C558	0.01/100	0.01/100	0.01/100	0.1/100	0.1/100
C551, C552, C553	0.01/100	0.01/100	0.01/100	0.1/100	0.1/100
R021, R022	USED	USED	SHORT	SHORT	SHORT
R566	UNF.C.	UNF.C.	UNF.F.	UNF.F.	UNF.F.
C545, C546	NONE	NONE	NONE	USED	USED

SYMBOL	
C615, C616	
K561	S
K562	S
K565	S
K566	S
K567	S
K568	S
K569	S

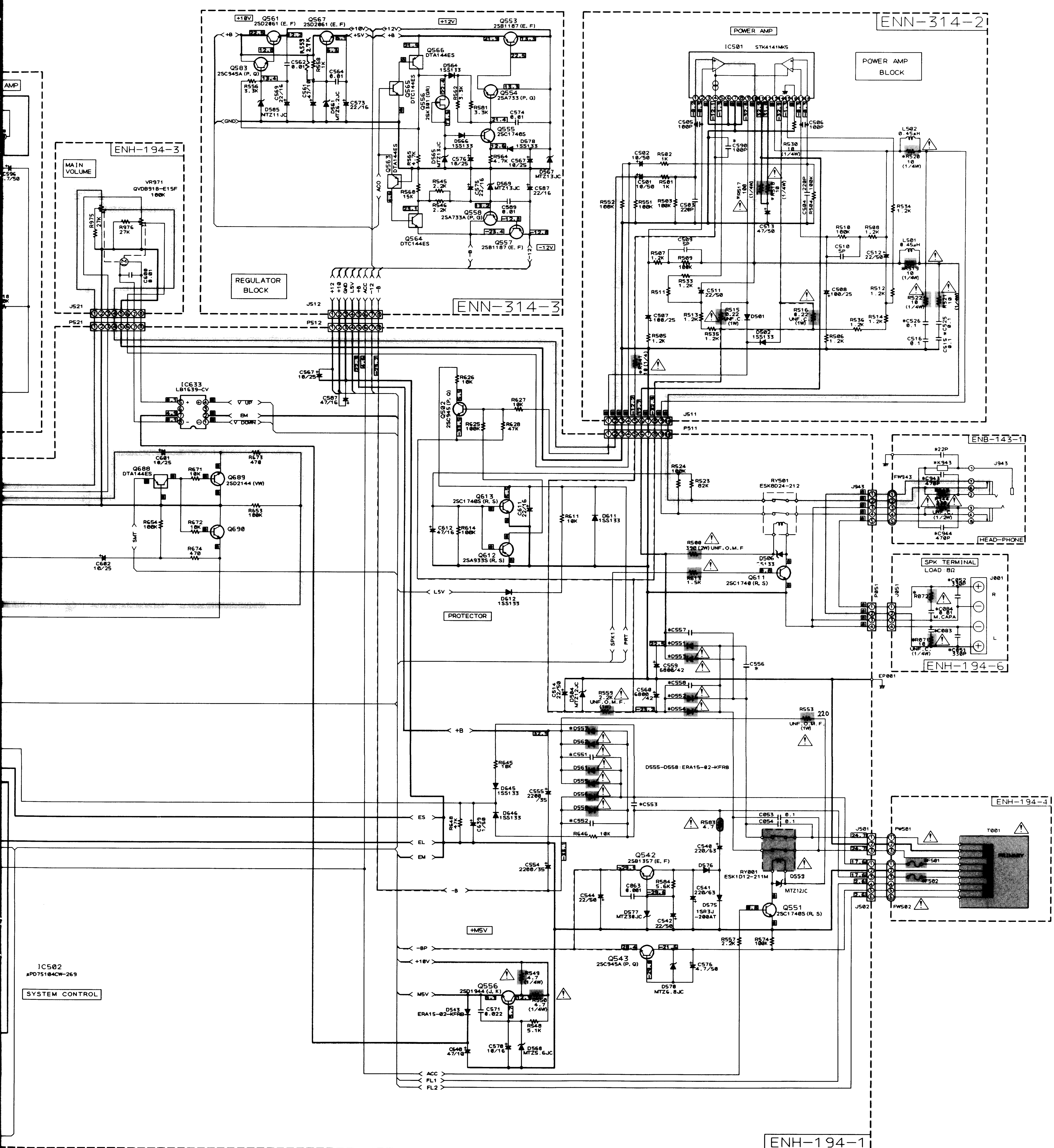

A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
8
9
10
11
12
13
ENH-194-2
PHONO EQ
IC611
VC4580LD
BUFFER AMP
IC591
BA15218N
J561
PIN JACK
L-CH
R-CH
PHONO
AUX/DAT
ANALOG SW
IC590
TC9163N
MAIN VOLUME
ENH-194-3
VR971
QVD0918-E15F
J521
P521
IC633
LB1639-CV
J591
P591
J944
TO ENB-143-1 FRONT CB
(FOR U ONLY)
IC581
BA15218N
MIC MIX AMP
FW701
TO ENN-314
SYSTEM CONNECTOR A
TO DR-MX33BK ENJ-056
JB311
JA311
REC L
REC R
POWER CONT
+12V
GND (DIGITAL)
+5.6V
D.RESET
−12V
+10V
GND (MOTOR)
PB L
PB R
GND (SIGNAL)
INH
T.RESET
TO DR-MX33BK ENA-126
JB211
JA211
−BP (TU)
GND (LOGIC)
TUNER L-CH
LOGIC +5V
GND (SIGNAL)
FILAMENT
TUNER R-CH
FILAMENT
+12V
DCS
NC
SYSTEM CONNECTOR B
JA511
JB511
L5V
LGND
M5V
−BP
FL2
−5V
FL1
DCS
CD RST
FL RST
STANDBY
TAPE
TUNER
CD
DAT
PHONO
KO0
KO1
KO2
KI0
REM
Q631
DTC114YS
Q632
DTC114YS
Q633
DTC114WS
Q688
DTA144ES
INH
RESET
XT631
ECX0084
IC502
μPD75104CW-269
SYSTEM CONTROL
R638~R640 : 10K

I J K L M N O P Q R S

EF, A, VX, BS	G, GI
NF.F.	UNF.F.
USED	USED
1/100	0.1/100
1/100	0.1/100
HORT	SHORT
NF.F.	UNF.F.
USED	USED

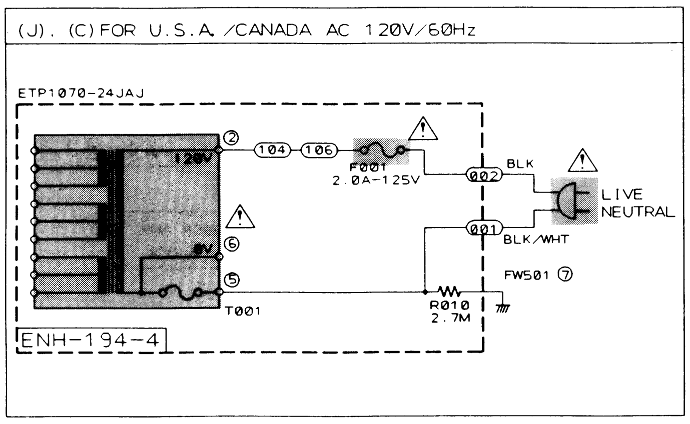
SYMBOL	J	C	U	EN, EF, A, V, VX, BS	G, GI
C615, C616	100P	100P	100P	220P	220P
K561	SHORT	SHORT	SHORT	SHORT	USED
K562	SHORT	SHORT	SHORT	SHORT	USED
K565	SHORT	SHORT	SHORT	SHORT	USED
K566	SHORT	SHORT	SHORT	SHORT	USED
K567	SHORT	SHORT	SHORT	SHORT	USED
K568	SHORT	SHORT	SHORT	SHORT	USED
K569	SHORT	SHORT	SHORT	SHORT	USED

SYMBOL	J	C	U	EN, EF, A, V, VX, BS	G, GI
D551-D554	ERB12	ERB12	ERB12	ERB12	ERB12
R549	UNF.C.	UNF.C.	UNF.F.	UNF.F.	UNF.F.
C545, C546	NONE	NONE	NONE	USED	
R519, R520	UNF.C.	UNF.C.	UNF.F.	UNF.F.	
R521, R522	UNF.C.	UNF.C.	UNF.F.	UNF.F.	

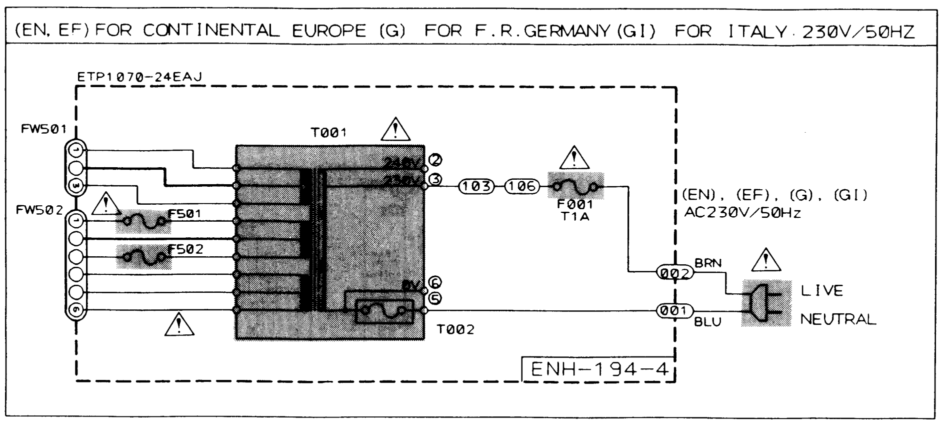

ENN-314-3
REGULATOR BLOCK
+10V
Q561 2SD2061 (E, F)
Q567 2SD2061 (E, F)
Q583 2SC945A (P, Q)
R556 3.3K
C569 22/16
D585 MTZ11JC
C562 0.01
R559 2.7K
R558 1K
C561 47/10
C564 0.01
D561 MTZ6.2JC
C573 22/16
+12V
Q553 2SB1187 (E, F)
Q566 DTA144ES
D564 1SS133
Q565 DTC144ES
Q556 2SK301 (GR)
R562 3.3K
R581 3.3K
Q554 2SA733 (P, Q)
C574 0.01
Q555 2SC1740S
D566 1SS133
D578 1SS133
Q563 DTA144ES
R565 4.7K
D565 MTZ13JC
C576 10/25
R564 4.7K
C567 10/25
D567 MTZ13JC
R560 15K
R545 2.2K
R546 2.2K
C575 22/16
D569 MTZ13JC
C587 22/16
C589 0.01
Q558 2SA733A (P, Q)
Q564 DTC144ES
Q557 2SB1187 (E, F)
-12V
+B
+10V
+5V
+12V
GND
ACO
-B
-12
+12 +10 GND L5V +B ACC -12 -B
J512
P512
ENN-314-2
POWER AMP
IC501 STK4141MK5
POWER AMP BLOCK
C505 100P
C506 100P
C590 100P
R530 10 (1/4W)
L502 0.45μH
R520 10 (1/4W)
C502 10/50
R502 1K
C501 10/50
R501 1K
R517 100 (1/4W)
R518 10 (1/4W)
C504 220P
R504 100K
R552 100K
R551 100K
R503 100K
C503 220P
C513 47/50
R534 1.2K
R510 100K
R508 1.2K
C509 5P
R507 1.2K
R509 100K
C510 5P
C512 22/50
L501 0.45μH
R519 10 (1/4W)
R533 1.2K
R511
C511 22/50
C508 100/25
R512 1.2K
R522 10 (1/4W)
R521 10 (1/4W)
C507 100/25
R513 1.2K
R515 0.22 UNF.C. (1W)
D501
R516 0.22 UNF.C. (1W)
R536 1.2K
R514 1.2K
C526 0.1
C525 0.1
R535 1.2K
D502 1SS133
R505 1.2K
R506 1.2K
C516 0.1
C515 0.1
R541 10 (1/4)
J511
P511
ENH-194-3
MAIN VOLUME
VR971 QVD8918-E15F 100K
R975 27K
R976 27K
M
C600 0.01
J521
P521
AMP
C596 4.7/50
IC633 LB1639-CV
V UP
EM
V DOWN
C567 10/25
C587 47/16
C601 10/25
R673 470
Q688 DTA144ES
R671 10K
Q689 2SD2144 (VW)
R653 100K
R654 100K
SMT
R672 10K
Q690
R674 470
C602 10/25
R626 10K
Q502 2SC945 (P, Q)
R627 10K
R625 100K
R628 47K
Q613 2SC1740S (R, S)
C611 22/16
C612 47/16
R614 100K
Q612 2SA933S (R, S)
R611 10K
D611 1SS133
L5V
D612 1SS133
PROTECTOR
SPK1
PRT
R524 100K
R523 82K
RY501 ESK8D24-212
R500 390 (2W) UNF.O.M.F
D506 1SS133
R613 1.5K
Q611 2SC1740 (R, S)
C557
D551
D553
C559 6800/42
C556
C514 22/50
D504 MTZ12JC
R559 2.2K UNF.O.M.F. (1W)
C560 6800/42
C558
D552
D554
R553 220 UNF.O.M.F. (1W)
EP001
+B
D557
D562
C551
D561
D555
D556
D558
C552
C553
R646 10K
D555-D558 : ERA15-02-KFRB
R645 10K
D645 1SS133
C555 2200/35
D646 1SS133
ES
EL
EM
R648 47K
C639 1/50
C554 2200/35
-B
+M5V
-BP
+10V
M5V
ACC
FL1
FL2
R583 4.7
C053 0.1
C054 0.1
C540 220/63
Q542 2SB1357 (E, F)
D576
RY001 ESK1D12-211M
D559
MTZ12JC
C063 0.001
R584 5.6K
C541 220/63
D575 1SR3J -200AT
C544 22/50
D577 MTZ30JC
C542 22/50
Q551 2SC1740S (R, S)
R557 2.2K
R574 100K
Q543 2SC945A (P, Q)
C576 4.7/50
D570 MTZ6.8JC
R549 4.7 (1/4W)
Q556 2SD1944 (J, K)
R550 4.7 (1/4W)
D543 ERA15-02-KFRB
C571 0.022
R548 5.1K
C640 47/10
C570 10/16
D568 MTZ5.6JC
IC502 μPD75104CW-269
SYSTEM CONTROL
ENH-194-1
ENB-143-1
*22P
*K943
J943
FW943
*C943 470P
R944 330 UNF.C. (1/2W)
*C944 470P
HEAD-PHONE
SPK TERMINAL
LOAD : 8Ω
*C052 330P
J001
R
L
*R072
*C084 0.01 M.CAPA
*C083
*R071 10 UNF.C. (1/4W)
*C051 330P
P051
J051
ENH-194-6
ENH-194-4
J501
FW501
T001
PRIMARY
F501
F502
J502
FW502
24.7
17.6
2.6

(2) Power Primary and Front Section

(J), (C) FOR U.S.A./CANADA AC 120V/60Hz


ETP1070-24JAJ
120V
②
104
106
F001
2.0A-125V
002
BLK
LIVE
NEUTRAL
001
BLK/WHT
FW501 ⑦
0V
⑥
⑤
T001
R010
2.7M
ENH-194-4

(EN, EF) FOR CONTINENTAL EUROPE (G) FOR F.R.GERMANY (GI) FOR ITALY 230V/50HZ

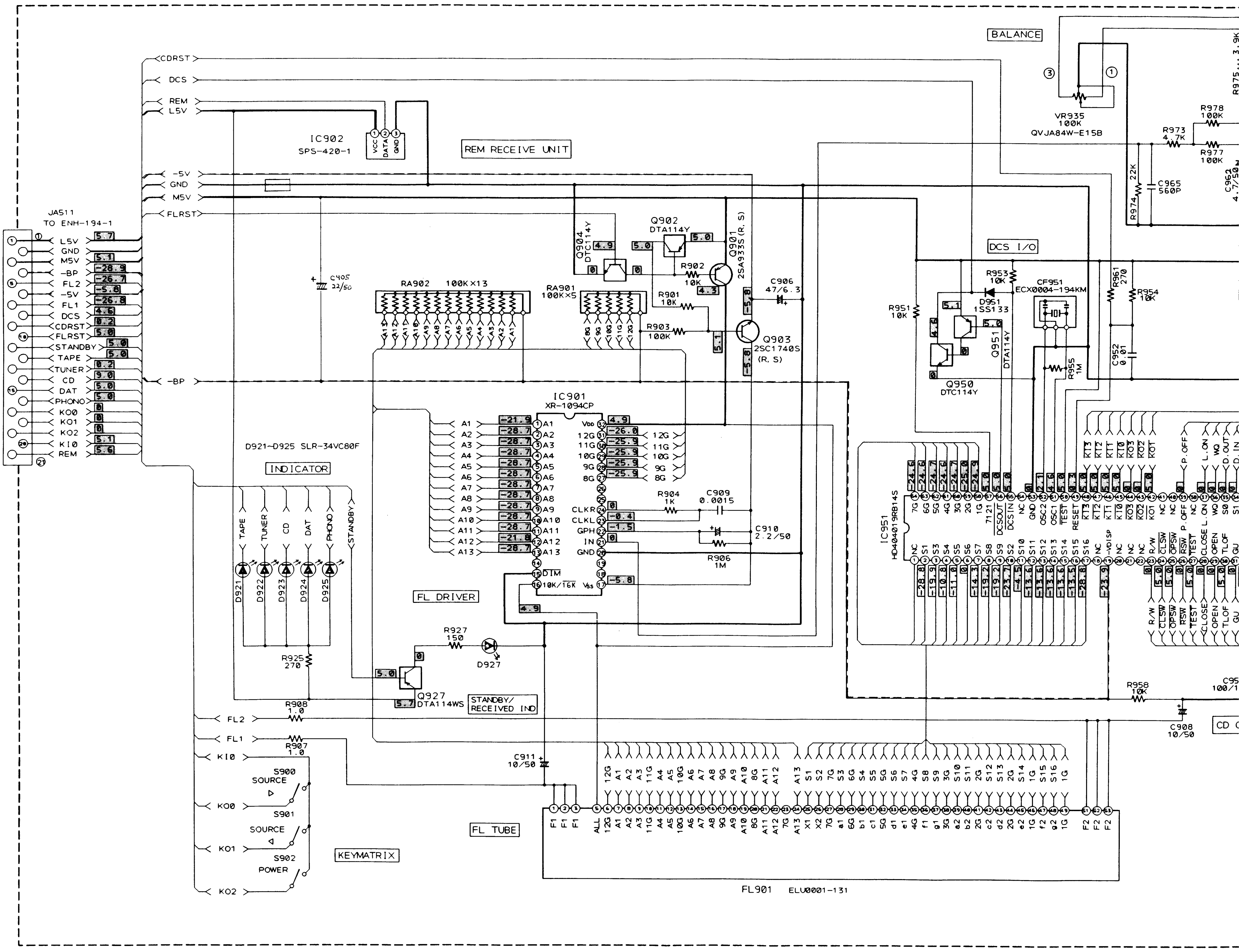

ETP1070-24EAJ
FW501
FW502
T001
240V
230V
②
③
103
106
F001
T1A
F501
F502
(EN), (EF), (G), (GI)
AC230V/50Hz
002
BRN
001
BLU
LIVE
NEUTRAL
0V
⑥
⑤
T002
ENH-194-4

	J, C	A, EN, EF, V, VX	G, GI	BS	U
ENB-143	A	B	C	D	E
K943	OPEN	OPEN	USED	OPEN	OPEN

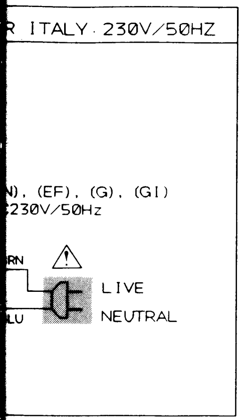
*LIST

	J, C	A, EN, EF, V, VX	G, GI	BS	U
C943, 944	OPEN	OPEN	USED	OPEN	OPEN
[illegible]	[illegible]	SHORT	USED	SHORT	[illegible]

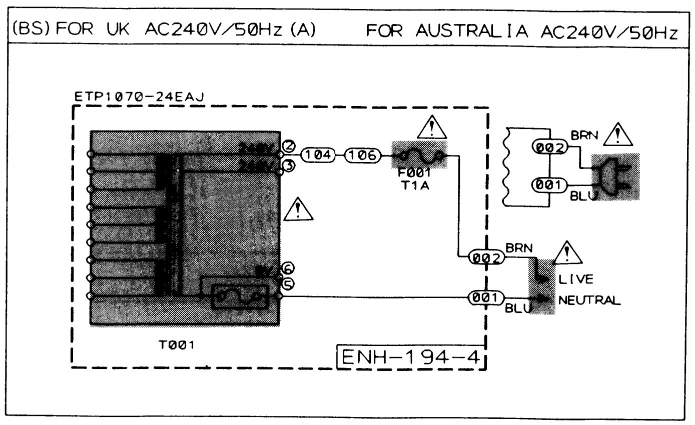
SYMBOL	J,C	A,EN,EF,V,VX	G,GI	
C945	SHORT	SHORT	USED	SH
RW931	SHORT	SHORT	USED	SH


BALANCE
VR935
100K
QVJA84W-E15B
R975...3.9K
R978
100K
R973
4.7K
R977
100K
R974 22K
C965
560P
CDRST
DCS
REM
L5V
IC902
SPS-420-1
VCC
DATA
GND
REM RECEIVE UNIT
-5V
GND
M5V
FLRST
JA511
TO ENH-194-1
L5V
GND
M5V
-BP
FL2
-5V
FL1
DCS
CDRST
FLRST
STANDBY
TAPE
TUNER
CD
DAT
PHONO
KO0
KO1
KO2
KI0
REM
C405
22/50
RA902 100K×13
RA901
100K×5
Q904
DTC114Y
Q902
DTA114Y
Q901
2SA933S (R, S)
R902
10K
R901
10K
R903
100K
C906
47/6.3
Q903
2SC1740S
(R, S)
DCS I/O
R953
10K
D951
1SS133
CF951
ECX0004-194KM
R961
270
R954
10K
R951
10K
Q951
DTA114Y
Q950
DTC114Y
R955
1M
C952
0.01
-BP
IC901
XR-1094CP
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
DIM
10K/16K
Vss
GND
IN
GPH
CLKL
CLKR
8G
9G
10G
11G
12G
Vdd
R904
1K
C909
0.0015
C910
2.2/50
R906
1M
D921~D925 SLR-34VC80F
INDICATOR
TAPE
TUNER
CD
DAT
PHONO
STANDBY
D921
D922
D923
D924
D925
R925
270
FL DRIVER
R927
150
D927
Q927
DTA114WS
STANDBY/
RECEIVED IND
R908
1.0
R907
1.0
FL2
FL1
KI0
KO0
KO1
KO2
S900
SOURCE
S901
SOURCE
S902
POWER
KEYMATRIX
C911
10/50
FL TUBE
FL901 ELU0001-131
IC951
HD404019R814S
R958
10K
C908
10/50
CD

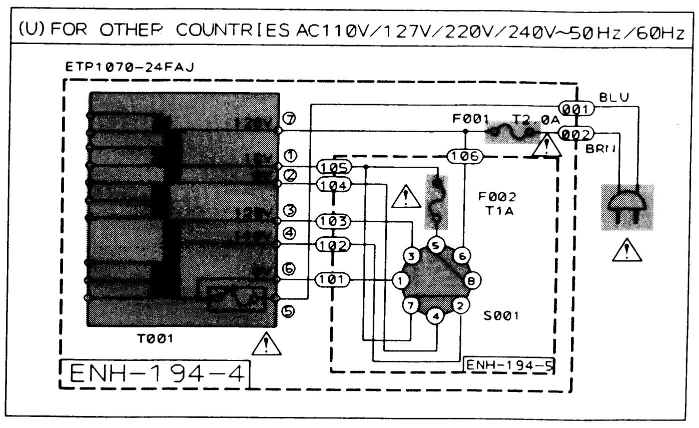
I J K L M N O P Q R S



R ITALY 230V/50HZ
N), (EF), (G), (GI)
C230V/50Hz
RN
LIVE
NEUTRAL
LU

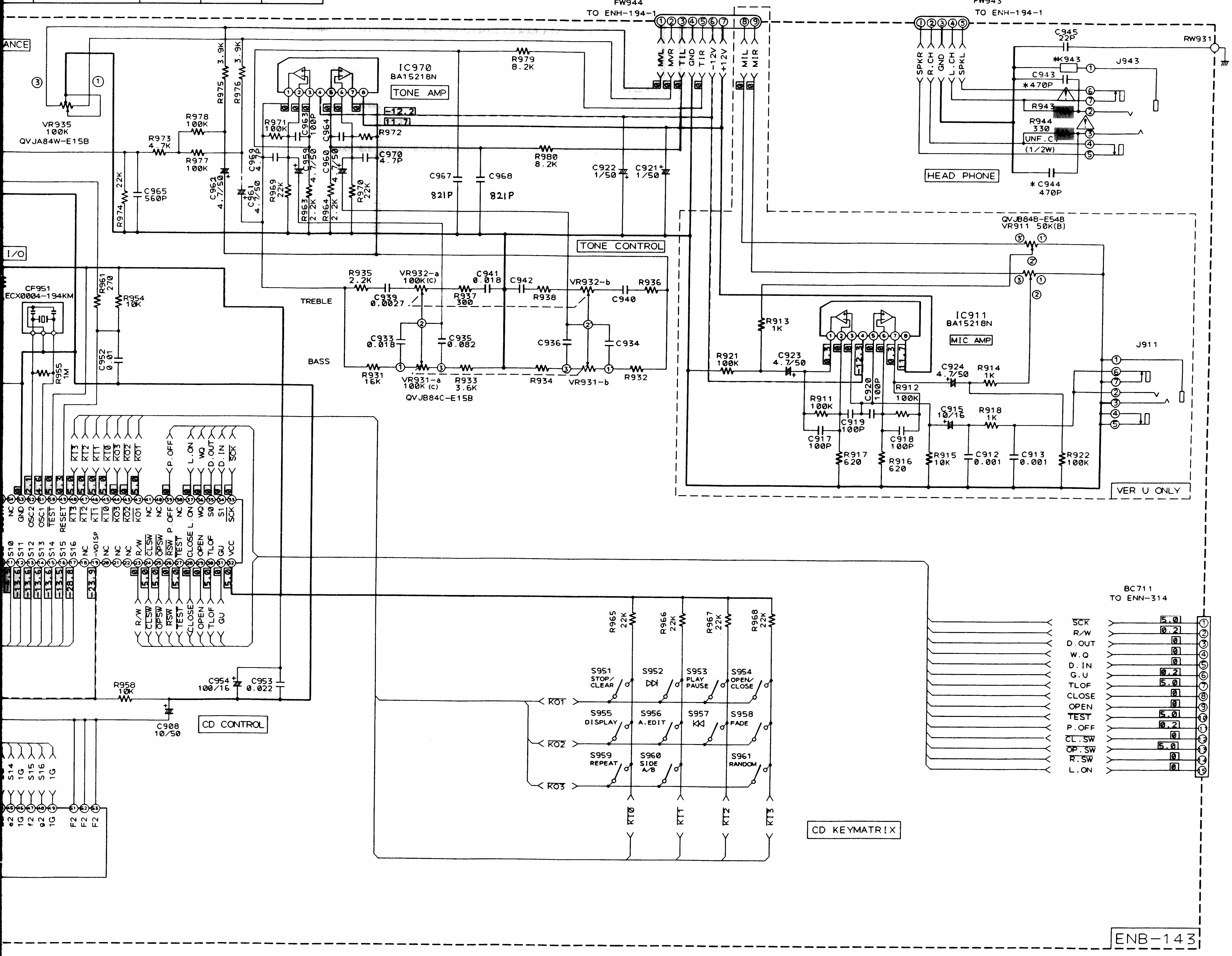


(BS) FOR UK AC240V/50Hz (A) FOR AUSTRALIA AC240V/50Hz
ETP1070-24EAJ
104
106
F001
T1A
BRN
BLU
002
001
LIVE
NEUTRAL
T001
ENH-194-4



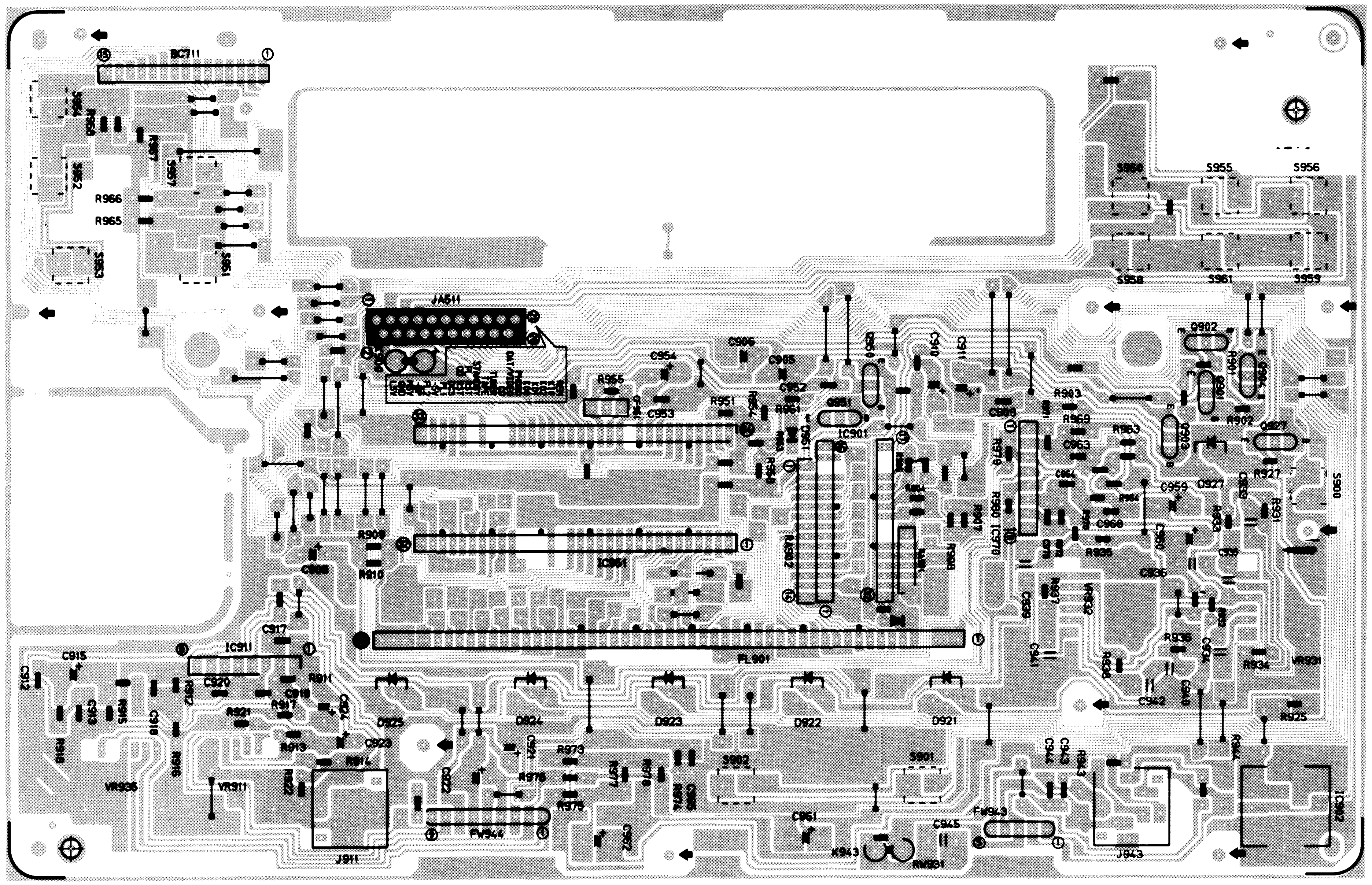
(U) FOR OTHEP COUNTRIES AC110V/127V/220V/240V~50Hz/60Hz
ETP1070-24FAJ
F001 T2.0A
001 BLU
002 BRN
106
105
104
103
102
101
F002
T1A
S001
T001
ENH-194-4
ENH-194-9

C	A,EN,EF,V,VX	G,GI	BS	U
RT	SHORT	USED	SHORT	SHORT
RT	SHORT	USED	SHORT	SHORT

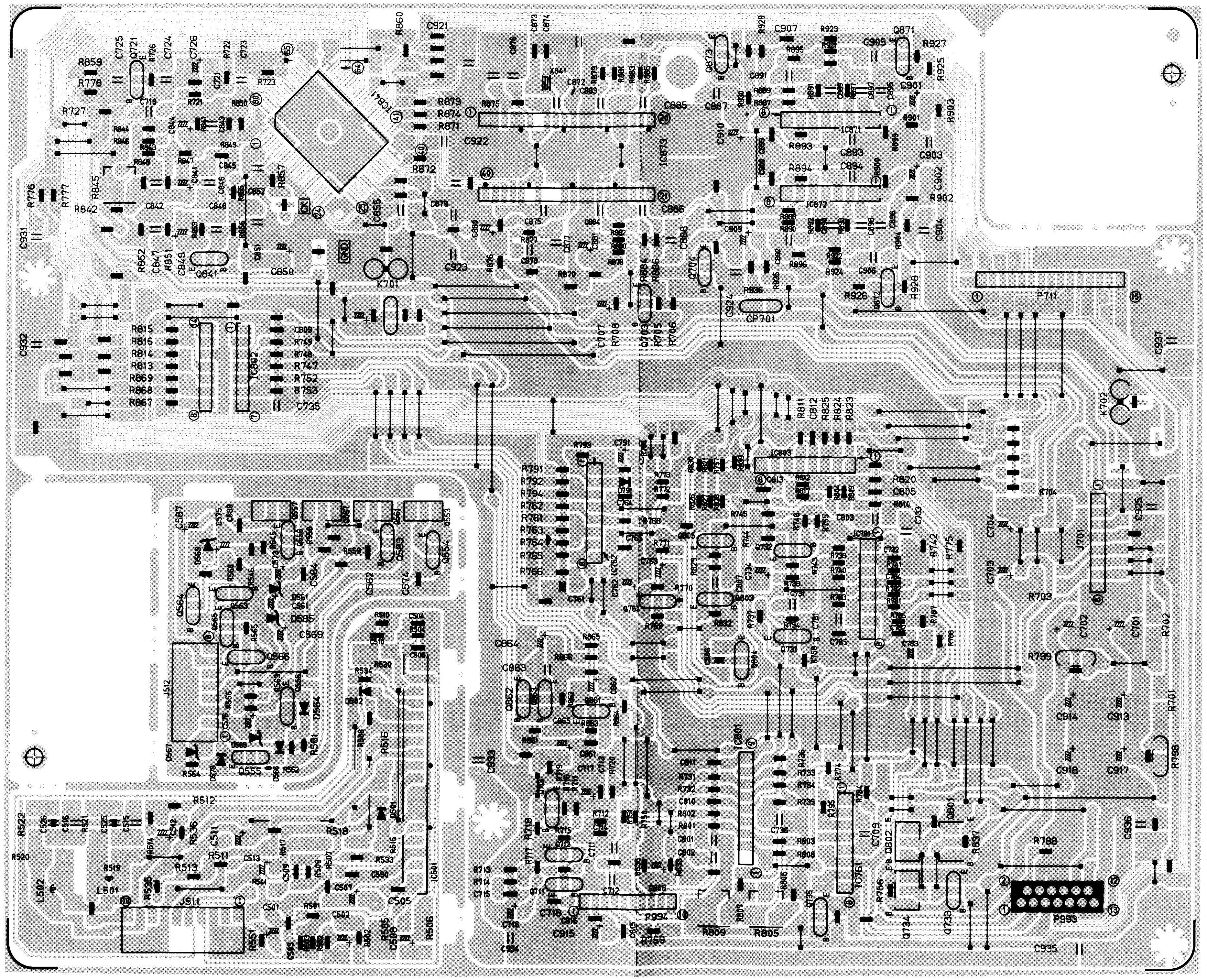


FW944
TO ENH-194-1
MVL MVR TIL GND TIR -12V +12V MIL MIR
FW943
TO ENH-194-1
SPKR R.CH GND L.CH SPKL
C945 22P
RW931
ANCE
VR935 100K QVJA84W-E15B
R975 3.9K
R976 3.9K
IC970 BA15218N
TONE AMP
R979 8.2K
R978 100K
R973 4.7K
R977 100K
R971 100K
C963 100P
C964 100P
R972
-12.2
11.7
C969 4.7P
C970 4.7P
R980 8.2K
C965 560P
R974 22K
C962 4.7/50
C961 4.7/50
C959 4.7/50
C960 4.7/50
R969 22K
R970 22K
R963 2.2K
R964 2.2K
C967 821P
C968 821P
C922 1/50
C921 1/50
TONE CONTROL
J943
*K943
C943 *470P
R943
R944 330
UNF.C (1/2W)
HEAD PHONE
*C944 470P
QVJB84B-E54B
VR911 50K(B)
I/O
CF951 ECX0004-194KM
R961 270
R954 10K
C952 0.01
R955 1M
TREBLE
BASS
R935 2.2K
VR932-a 100K(C)
C941 0.018
C942
VR932-b
R936
C939 0.0027
R937 300
R938
C940
C933 0.018
C935 0.082
C936
C934
R931 16K
VR931-a 100K(C)
R933 3.6K
R934
VR931-b
R932
QVJB84C-E15B
IC911 BA15218N
MIC AMP
R913 1K
R921 100K
C923 4.7/50
C924 4.7/50
R914 1K
J911
R911 100K
C919 100P
C920 100P
R912 100K
C915 10/16
R918 1K
C917 100P
C918 100P
R917 620
R916 620
R915 10K
C912 0.001
C913 0.001
R922 100K
VER U ONLY
KT3 KT2 KT1 KT0 KO3 KO2 KO1
P.OFF L.ON WQ D.OUT D.IN SCK
NC GND OSC2 OSC1 TEST RESET KT3 KT2 KT1 KT0 KO3 KO2 KO1 NC NC P.OFF L.ON WQ S0 S1 SCK
S10 S11 S12 S13 S14 S15 S16 -VDISP NC NC NC R/W CLSW OPSW RSW TEST CLOSE L.ON OPEN TLOF GU VCC
R/W CLSW OPSW RSW TEST CLOSE OPEN TLOF GU
R958 10K
C954 100/16
C953 0.022
C908 10/50
CD CONTROL
S14 S15 S16
1G 1G 1G 1G
F2 F2 F2
R965 22K
R966 22K
R967 22K
R968 22K
S951 STOP/CLEAR
S952
S953 PLAY PAUSE
S954 OPEN/CLOSE
S955 DISPLAY
S956 A.EDIT
S957
S958 FADE
S959 REPEAT
S960 SIDE A/B
S961 RANDOM
KO1
KO2
KO3
KT0 KT1 KT2 KT3
CD KEYMATRIX
BC711
TO ENN-314
SCK 5.0
R/W 0.2
D.OUT 0
W.Q 0
D.IN 0
G.U 0.2
TLOF 5.0
CLOSE 0
OPEN 0
TEST 5.0
P.OFF 0.2
CL.SW 5.0
OP.SW 0
R.SW 0
L.ON 0
ENB-143

■ Front P.C.B. (ENB-143)


BC711
JA511
S954
S952
S953
S951
S957
R966
R965
R956
R957
S950
S955
S956
S958
S961
S959
R955
C954
C906
C905
C952
R951
C953
IC901
C951
R961
R954
R958
C955
C910
C911
R903
R969
R963
C902
R901
R902
C927
C901
C953
R927
C959
D927
S900
R908
R910
C908
IC951
IC970
R960
R979
R907
C909
R906
C936
R936
R934
VR931
VR932
C942
C941
C940
C934
R925
FL901
IC911
C915
C912
C913
C916
R915
R916
R918
R912
C920
R911
C919
R921
R917
C924
C923
R913
R914
R922
VR936
VR911
J911
D925
D924
D923
D922
D921
C921
C922
R973
R976
R975
R977
R978
R974
C956
C962
FW944
S902
S901
C961
K943
RV931
C945
FW943
C944
C943
R943
R944
J943
IC902

■ CD, Regulator & Power Amp. P.C.B. (ENN-314)

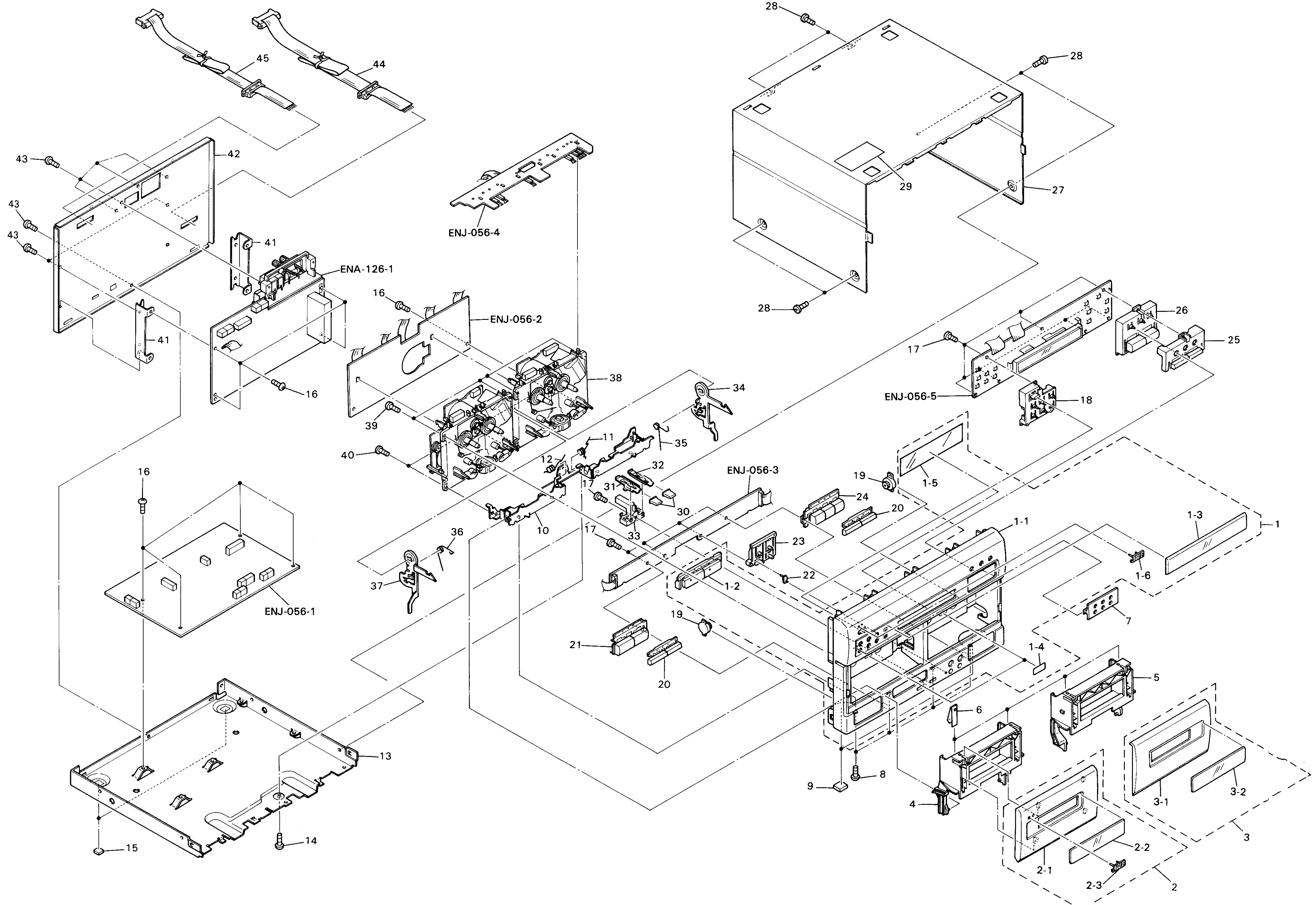

IC841
IC873
IC871
IC872
IC802
IC803
IC701
IC761
IC762
IC801
K701
K702
P711
J701
J512
J511
P993
P994
CP701
L501
L502
GND

PARTS LIST

Contents

General Exploded View and Parts List 2-3
Cassette Mechanism Ass'y and Parts List 2-7
Printed Circuit Board Ass'y and Parts List 2-10
  ■ ENJ-056 ☐ Cassette Deck PC Board Ass'y 2-10
  ■ ENA-126 ☐ Tuner PC Board Ass'y 2-14

General Exploded View and Parts List


45
44
28
28
29
27
28
43
42
43
43
41
ENA-126-1
41
16
ENJ-056-2
16
ENJ-056-4
38
39
40
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ENJ-056-5
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ENJ-056-3
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ENJ-056-1
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■Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-DRMX44BKJ(S	Front Panel Ass'y	1		J
		EFP-DRMX44BKU(S	Front Panel Ass'y	1		C , U , A
		EFP-DRMX44BKE(S	Front Panel Ass'y	1		EN , EF , G , GI , VX , BS
	1-1	E102534-001SM	Front Panel	1		J , C , U , A
		E102534-002SM	Front Panel	1		EN , EF , G , GI , VX , BS
	1-2	E207374-001SS	Push Button Ass'y	1	Dolby	
	1-3	E307922-001SM	Window Screen	1		Except J
		E307922-002SM	Window Screen	1		J
	1-4	E69777-003	Reflector Plate	2		
	1-5	E75130-005SM	FL Screen	1		J
	1-6	E406971-001	JVC Mark	1		
	2	E207365-001SA	Cassette Lid Ass'y	1	A	
	2-1	E207365-001SM	Cassette Lid	1	A	
	2-2	E307919-001SM	Cassette Window	1	A	
	2-3	E406971-001	JVC Mark	1	A	
	3	E207367-001SA	Cassette Lid Ass'y	1	B	
	3-1	E207367-001SM	Cassette Lid	1	B	
	3-2	E307919-001SM	Cassette Window	1	B	
	4	E207381-001SM	Cassette Holder	1	A	
	5	E207382-001SM	Cassette Holder	1	B	
	6	E406713-001	Cassette Spring	4		
	7	E307610-222SM	Ornament	1		
	8	SBST3006Z	Screw	4		
	9	E406855-006SM	Spacer	2	Front Foot	
	10	E207360-001SM	Holder Bracket	1		
	11	E406672-221SM	Holder Spring	1	B	
	12	E406671-221SM	Holder Spring	1	A	
	13	E102536-001SM	Chassis Base	1		
	14	SBST3006M	Screw	1		
	15	E406855-007SM	Spacer	2	Rear Foot	
	16	SBSG3008N	Screw	9		
	17	SDSF2610Z	Screw	12		
	18	E307898-001SS	Push Button	1	Timer	
	19	E304434-002	Dumper Ass'y	2		
	20	E207389-001SM	Push Button	2	FF / Rew	
	21	E207371-001SS	Push Button Ass'y	1	A-Play	
	22	E406673-001	Indicator	1	Rec	
	23	E207364-001SS	Push Button	1	Rec	
	24	E207163-221SS	Push Button Ass'y	1	B-Play	
	25	E307958-001SM	Push Button	1	Tuning	
	26	E307925-001SM	Push Button	1	Preset	
	27	E207357-004SM	Metal Cover	1		
	28	SDSG3006M	Screw	6		
	29	E67000-014	Caution Label	1		
	30	E406667-221SM	Push Button	2		
	31	E406668-221SM	Push Plate	1		
	32	E406668-222SM	Push Plate	1		
	33	E307921-002	Eject Guide	1		
	34	E307600-222SM	Eject Lever	1	B	
	35	E406670-221SM	Eject Spring	1	B	
	36	E406669-221SM	Eject Spring	1	A	
	37	E307599-222SM	Eject Lever	1	A	
	38	—	Cassette Mechanism Unit	1	See page 2-7	
	39	SBSF3010C	Screw	4		
	40	SBST3008C	Screw	4		
	41	E307959-001SM	Circuit Board Bracket	2		
	42	E207358-001SM	Rear Panel	1		J , C
		E207358-002SM	Rear Panel	1		U
		E207358-003SM	Rear Panel	1		A
		E207358-004SM	Rear Panel	1		EN , EF , G , GI

⚠: Safety Parts

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
		E207358-008SM	Rear Panel	1		BS
		E207358-009SM	Rear Panel	1		VX
	43	E73273-006	Special Screw	7		J , C , U , A
		E73273-006	Special Screw	6		EN , EF , G , GI , VX , BS
	44	EWP907-008	Plug Cord	1	15Pin (Tuner)	
	45	EWP907-012	Plug Cord	1	11Pin (Deck)	
	—	E61029-009	Number Label	1		

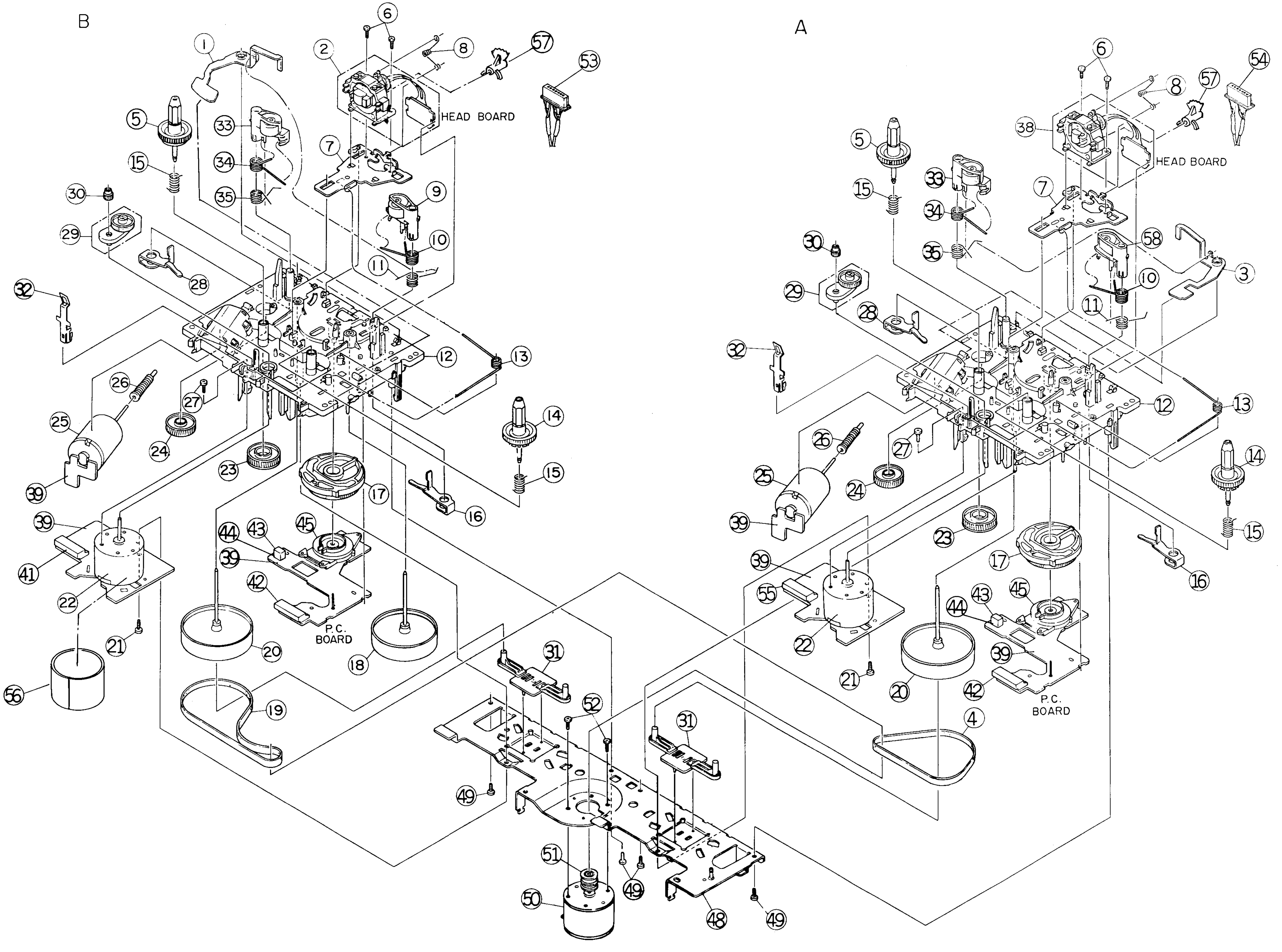
⚠: Safety Parts

The Marks Designated Areas

J……………the U.S.A.
C……………Canada
A……………Australia
G……………Germany
GI……………Italy
BS……………the U.K.

EN……………Scandinavia
EF……………Continental Europe
U……………Universal Type
VX……………Poland , Soviet Union and Rumania
No mark indicates all areas.

Cassette Mechanism Ass'y and Parts List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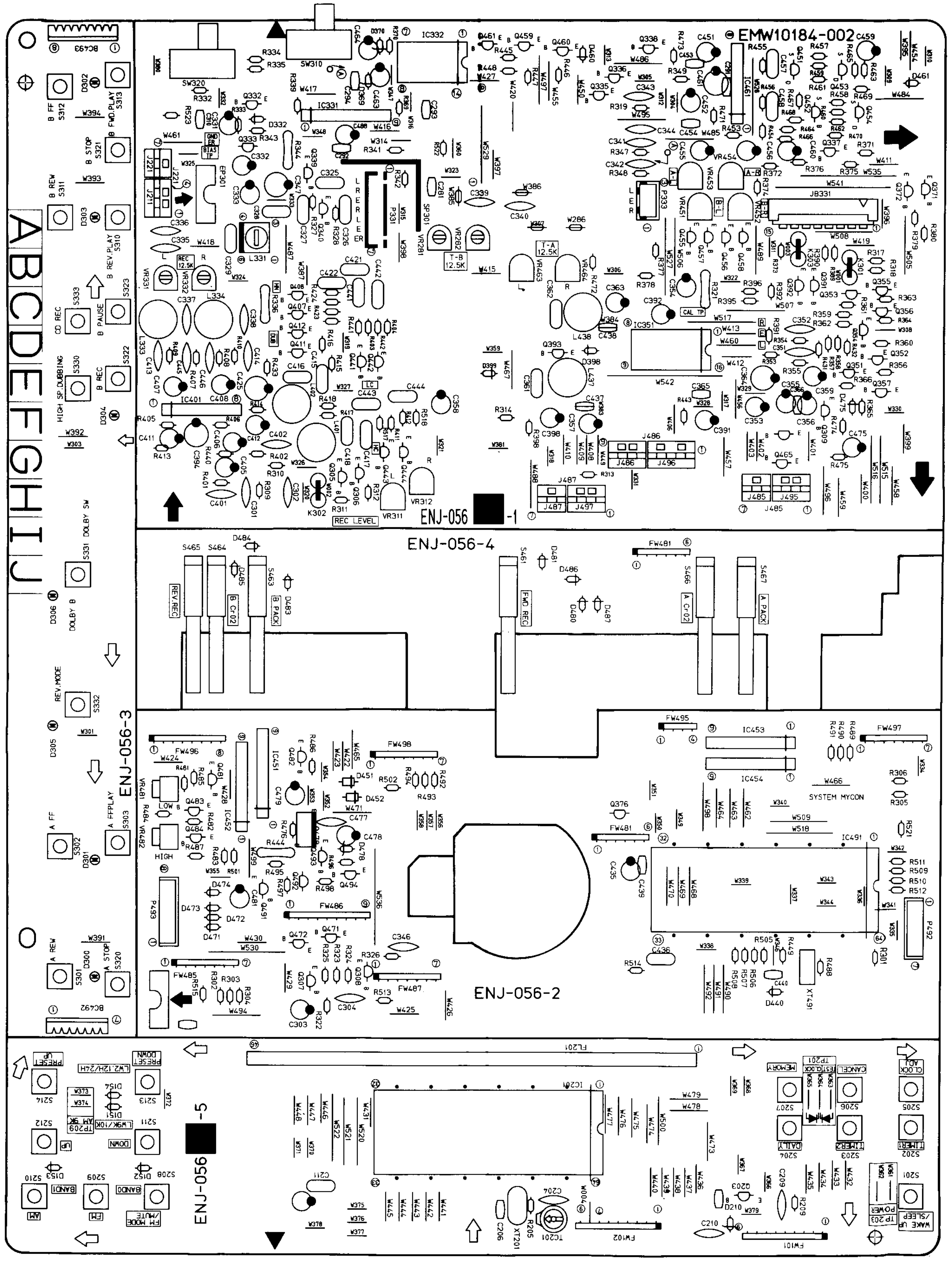
■ Cassette Mechanism Parts List

Item	Part Number	Part Name	Q'ty	Description	Areas
1	VKL7130-001	Eject Safety	1	B Mechanism	
2	VKS3551-00B	Head Mount Ass'y	1	B Mechanism	
3	VKL7131-001	Eject Safety	1	A Mechanism	
4	VKB3001-052	Belt	1	A Mechanism	
5	VKS5321-00D	Reel Ass'y	2	Right	
6	SDST2004Z	Screw	4	Head Mount Ass'y	
7	VKL6942-00E	Head Base Ass'y	2		
8	VKW4994-001	Head Spring	2		
9	VKP4221-00B	Pinch Roller Ass'y	1	B Mechanism (Left)	
10	VKW4982-001	Torsion Spring	2	B Mechanism (Left)	
11	VKW4933-004	Torsion Spring	2	Left	
12	VKS1112-30H	Chassis Base Ass'y	2		
13	VKW4930-002	Return Spring	2		
14	VKS3480-005	Reel Ass'y	2	Left	
15	VKW4928-003	B.T. Spring	4	Reel Ass'y	
16	VKL6940-002	Pinch Roller Lever	2	Left	
17	VKS2209-005	Controller Cam	2		
18	VKF3186-00C	Flywheel Ass'y	1	B Mechanism (Left)	
19	VKB3001-048	Belt	1	B Mechanism	
20	VKF3184-00C	Flywheel Ass'y	2	Right	
21	SDSF2608Z	Screw	2		
22	MMN-6F4RA38	D.C. Motor	2	Reel	
23	VKS5331-002	Gear (6)	2		
24	VKS5330-004	Gear (5)	2		
25	MXN-13FB12F	D.C. Motor	2	Cam	
26	VKS5329-002	Gear (4)	2		
27	SDSP2605Z	Screw	2		
28	VKL6939-002	Pinch Roller Lever	2	Right	
29	VKS5325-00F	FR Arm Ass'y	2		
30	VKS5328-002	Reel Motor Gear	2		
31	VKS5327-003	Trust Plate	2		
32	VKY4628-002	Pack Spring	2		
33	VKP4219-00C	Pinch Roller Ass'y	2	Right	
34	VKW4981-001	Torsion Spring	2	Right	
35	VKW4932-004	Torsion Spring	2	Right	
38	VKS3550-00B	Head Mount Ass'y	1	A Mechanism	
39	VMW2345-002	Printed Board	2		
41	VMC0107-R08	Connector	1	B Mechanism	
42	VMC0107-R07	Connector	2		
43	DN6851A	Hall IC	2		
44	VKS3487-001	IC Holder	2		
45	VKS3587-00A	Cam Switch Ass'y	2		
48	VKM3419-00E	FM Bracket	1		
49	SDSF2605Z	Screw	4		
50	MMI-6H2LWSK	Motor	1	Capstan	
51	VKR4632-002	Motor Pulley	1		
52	SPSP2603Z	Screw	2		
53	VDM007P-024N	Head Wire	1	B Mechanism	
54	VDM003P-024N	Head Wire	1	A Mechanism	
55	VMC0107-R04	Connector	1	A Mechanism	
56	FE-ZMS514	Shield Cor	1	B Mechanism	
57	VKS3485-002	Head Gear	2		
58	VKP3118-002	Pinch Roller	1	A Mechanism (Left)	

Printed Circuit Board Ass'y and Parts List

■ENJ-056 ☐ Cassette Deck PC Board Ass'y

Note : ENJ-056 ☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENJ-056 A	the U.S.A., Canada
ENJ-056 B	Universal Type
ENJ-056 C	Australia
ENJ-056 D	Continental Europe, Scandinavia
ENJ-056 E	Germany
ENJ-056 F	the U.K.
ENJ-056 G	Italy
ENJ-056 H	Poland, Soviet Union and Rumania

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q203	DTA114YS	SILICON ROHM	
	Q305	2SD2144S(VW)	SILICON ROHM	
	Q306	2SD2144S(VW)	SILICON ROHM	
	Q307	2SC1740S(R,S)	SILICON ROHM	
	Q308	2SC1740S(R,S)	SILICON ROHM	
	Q332	2SC1740S(R,S)	SILICON ROHM	
	Q333	2SC1740S(R,S)	SILICON ROHM	
	Q335	DTC144ES	SILICON ROHM	
	Q336	DTC144ES	SILICON ROHM	
	Q337	DTC144ES	SILICON ROHM	
	Q338	DTC144ES	SILICON ROHM	
	Q339	2SC1740S(R,S)	SILICON ROHM	
	Q340	2SC1740S(R,S)	SILICON ROHM	
	Q351	2SC1740S(R,S)	SILICON ROHM	
	Q352	2SC1740S(R,S)	SILICON ROHM	
	Q353	2SC1740S(R,S)	SILICON ROHM	
	Q354	2SC1740S(R,S)	SILICON ROHM	
	Q355	2SC1740S(R,S)	SILICON ROHM	
	Q356	2SC1740S(R,S)	SILICON ROHM	
	Q357	2SC1740S(R,S)	SILICON ROHM	
	Q371	2SD2144S(VW)	SILICON ROHM	
	Q372	2SD2144S(VW)	SILICON ROHM	
	Q376	DTC144ES	SILICON ROHM	
	Q391	2SD2144S(VW)	SILICON ROHM	
	Q392	2SD2144S(VW)	SILICON ROHM	
	Q393	DTA144ES	SILICON ROHM	
	Q407	DTC144TS	SILICON ROHM	
	Q408	DTC144TS	SILICON ROHM	
	Q411	DTC144TS	SILICON ROHM	
	Q412	DTC144TS	SILICON ROHM	
	Q441	DTC144TS	SILICON ROHM	
	Q442	DTC144TS	SILICON ROHM	
	Q443	DTC144TS	SILICON ROHM	
	Q444	DTC144TS	SILICON ROHM	
	Q451	2SK301(Q,R)	F.E.T MATSUSHITA	
	Q452	2SK301(Q,R)	F.E.T MATSUSHITA	
	Q453	2SK301(Q,R)	F.E.T MATSUSHITA	
	Q454	2SK301(Q,R)	F.E.T MATSUSHITA	
	Q455	DTC114YS	SILICON ROHM	
	Q456	DTC114YS	SILICON ROHM	
	Q457	DTC114YS	SILICON ROHM	
	Q458	DTC114YS	SILICON ROHM	
	Q459	DTC114YS	SILICON ROHM	
	Q460	DTA114YS	SILICON ROHM	
	Q461	2SA933S(R,S)	SILICON ROHM	
	Q465	DTA114YS	SILICON ROHM	
	Q471	DTA144ES	SILICON ROHM	
	Q472	DTC144ES	SILICON ROHM	
	Q478	2SD2037(E,F)	SILICON ROHM	
	Q481	2SC1740S(R,S)	SILICON ROHM	
	Q482	2SC1740S(R,S)	SILICON ROHM	
	Q483	2SA933S(R,S)	SILICON ROHM	
	Q484	2SA933S(R,S)	SILICON ROHM	
	Q491	DTC144ES	SILICON ROHM	
	Q492	DTC144ES	SILICON ROHM	
	Q493	2SA934(Q,R)	SILICON ROHM	
	Q494	2SA934(Q,R)	SILICON ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC201	HD614089SC91	I.C. HITACHI	
	IC331	BA3126N	I.C. ROHM	
	IC332	BU4066B	I.C. ROHM	
	IC351	HA12136A	I.C. HITACHI	
	IC401	BA15218N	I.C. ROHM	
	IC451	BA6218	I.C. ROHM	
	IC452	BA6218	I.C. ROHM	
	IC453	BA6218	I.C. ROHM	
	IC454	BA6218	I.C. ROHM	
	IC461	UPC1228HA	I.C. NEC	
	IC491	HD614081SC34	I.C. HITACHI	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D151	1SS133	SILICON ROHM	C
	D152	1SS133	SILICON ROHM	A
	D152	1SS133	SILICON ROHM	H
	D153	1SS133	SILICON ROHM	B
	D153	1SS133	SILICON ROHM	H
	D154	1SS133	SILICON ROHM	A
	D154	1SS133	SILICON ROHM	G
	D210	MTZ5.6JC	ZENER ROHM	
	D301	SLR-34MC3F	L.E.D. ROHM	
	D302	SLR-34MC3F	L.E.D. ROHM	
	D303	SLR-34MC3F	L.E.D. ROHM	
	D304	SLR-34VC3F	L.E.D. ROHM	
	D305	SLR-34VC3F	L.E.D. ROHM	
	D306	SLR-34VC3F	L.E.D. ROHM	
	D332	1SS133	SILICON ROHM	
	D369	MTZ7.5JC	ZENER ROHM	
	D370	MTZ7.5JC	ZENER ROHM	
	D398	1SS133	SILICON ROHM	
	D399	1SS133	SILICON ROHM	
	D440	1SS133	SILICON ROHM	
	D451	1SR139-200	SILICON ROHM	
	D452	1SR139-200	SILICON ROHM	
	D453	1SR139-200	SILICON ROHM	
	D460	1SS133	SILICON ROHM	
	D461	1SS133	SILICON ROHM	
	D471	1SS133	SILICON ROHM	
	D472	1SS133	SILICON ROHM	
	D473	1SS133	SILICON ROHM	
	D474	1SS133	SILICON ROHM	
	D475	1SS133	SILICON ROHM	
	D478	MTZ6.2JC	ZENER ROHM	
	D480	1SS133	SILICON ROHM	
	D481	1SS133	SILICON ROHM	
	D483	1SS133	SILICON ROHM	
	D484	1SS133	SILICON ROHM	
	D485	1SS133	SILICON ROHM	
	D486	1SS133	SILICON ROHM	
	D487	1SS133	SILICON ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C204	QCT26CH-120	12PF 50V CERAMIC	
	C206	QCVB1CM-103	0.01MF 16V CERAMIC	
	C209	QCF21HP-103	0.01MF 50V CERAMIC	
	C210	QCF21HP-103	0.01MF 50V CERAMIC	
	C211	QCZ0202-155	1.5MF 25V CERAMIC	
	C291	QCVB1CM-103	0.01MF 16V CERAMIC	
	C293	QCVB1CM-103	0.01MF 16V CERAMIC	
	C294	QCVB1CM-103	0.01MF 16V CERAMIC	
	C301	QCY21HK-122	1200PF 50V CERAMIC	
	C302	QCY21HK-122	1200PF 50V CERAMIC	
	C303	QETB1HM-105	1MF 50V ELECTRO	
	C304	QCF21HP-223	0.022MF 50V CERAMIC	
	C310	QCBB1HK-471	470PF 50V CERAMIC	
	C325	QFLB1HJ-222	2200PF 50V MYLAR	
	C326	QFLB1HJ-222	2200PF 50V MYLAR	
	C327	QFLB1HJ-682	6800PF 50V MYLAR	
	C328	QFLB1HJ-273	0.027MF 50V MYLAR	
	C329	QFP81HJ-822	8200PF 50V POLY	
	C331	QETB1HM-105	1MF 50V ELECTRO	
	C332	QETB1HM-105	1MF 50V ELECTRO	
	C333	QETB1EM-106	10MF 25V ELECTRO	
	C335	QCS21HJ-101	100PF 50V CERAMIC	
	C336	QCS21HJ-101	100PF 50V CERAMIC	
	C337	QCS21HJ-101	100PF 50V CERAMIC	
	C338	QCS21HJ-101	100PF 50V CERAMIC	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C339	QCY21HK-152	1500PF 50V CERAMIC	
	C340	QCY21HK-152	1500PF 50V CERAMIC	
	C341	QCS21HJ-331	330PF 50V CERAMIC	
	C342	QCS21HJ-331	330PF 50V CERAMIC	
	C343	QCS21HJ-681	680PF 50V CERAMIC	
	C344	QCS21HJ-681	680PF 50V CERAMIC	
	C346	QCF21HP-223	0.022MF 50V CERAMIC	
	C347	QETB1CM-107	100MF 16V ELECTRO	
	C351	QCF21HP-473	0.047MF 50V CERAMIC	
	C352	QCF21HP-473	0.047MF 50V CERAMIC	
	C353	QETB1HM-105	1MF 50V ELECTRO	
	C354	QETB1HM-105	1MF 50V ELECTRO	
	C355	QETB1HM-105	1MF 50V ELECTRO	
	C356	QETB1HM-105	1MF 50V ELECTRO	
	C357	QETB1EM-106	10MF 25V ELECTRO	
	C358	QETB1EM-106	10MF 25V ELECTRO	
	C359	QETB1EM-106	10MF 25V ELECTRO	
	C361	QFV81HJ-224	0.22MF 50V T.FILM	
	C362	QFV81HJ-224	0.22MF 50V T.FILM	
	C363	QETB1HM-475	4.7MF 50V ELECTRO	
	C364	QETB1CM-107	100MF 16V ELECTRO	
	C365	QCGB1HK-102	1000PF 50V CERAMIC	
	C366	QCGB1HK-102	1000PF 50V CERAMIC	
	C391	QETB1EM-106	10MF 25V ELECTRO	
	C392	QETB1EM-106	10MF 25V ELECTRO	
	C394	QETB1CM-107	100MF 16V ELECTRO	
	C398	QETB1CM-226	22MF 16V ELECTRO	
	C401	QCF21HP-473	0.047MF 50V CERAMIC	
	C402	QCF21HP-473	0.047MF 50V CERAMIC	
	C405	QETB1HM-225	2.2MF 50V ELECTRO	
	C406	QETB1HM-225	2.2MF 50V ELECTRO	
	C407	QETB1HM-225	2.2MF 50V ELECTRO	
	C408	QETB1HM-225	2.2MF 50V ELECTRO	
	C411	QETB1EM-106	10MF 25V ELECTRO	
	C412	QETB1EM-106	10MF 25V ELECTRO	
	C413	QCS21HJ-271	270PF 50V CERAMIC	
	C414	QCS21HJ-271	270PF 50V CERAMIC	
	C415	QFLB1HJ-103	0.01MF 50V MYLAR	
	C416	QFLB1HJ-103	0.01MF 50V MYLAR	
	C417	QFLB1HJ-562	5600PF 50V MYLAR	
	C418	QFLB1HJ-562	5600PF 50V MYLAR	
	C421	QFLB1HJ-682	6800PF 50V MYLAR	
	C422	QFLB1HJ-682	6800PF 50V MYLAR	
	C425	QETB1EM-107	100MF 25V ELECTRO	
	C435	QETB1CM-476	47MF 16V ELECTRO	
	C436	QCZ0202-155	1.5MF 25V CERAMIC	
	C437	QCBB1HK-101	100PF 50V CERAMIC	
	C438	QCBB1HK-101	100PF 50V CERAMIC	
	C440	QCVB1CM-103	0.01MF 16V CERAMIC	
	C441	QFLB1HJ-103	0.01MF 50V MYLAR	
	C442	QFLB1HJ-103	0.01MF 50V MYLAR	
	C443	QFLB1HJ-123	0.012MF 50V MYLAR	
	C444	QFLB1HJ-123	0.012MF 50V MYLAR	
	C445	QCS21HJ-470	47PF 50V CERAMIC	
	C446	QCS21HJ-470	47PF 50V CERAMIC	
	C451	QEK51HM-225G	2.2MF 50V ELECTRO	
	C452	QEK51HM-225G	2.2MF 50V ELECTRO	
	C453	QCBB1HK-101	100PF 50V CERAMIC	
	C454	QCBB1HK-101	100PF 50V CERAMIC	
	C455	QETB1AM-107	100MF 10V ELECTRO	
	C456	QETB1AM-107	100MF 10V ELECTRO	
	C457	QFLB1HJ-822	8200PF 50V MYLAR	
	C458	QFLB1HJ-822	8200PF 50V MYLAR	
	C459	QETB1HM-105	1MF 50V ELECTRO	
	C460	QETB1HM-105	1MF 50V ELECTRO	
	C461	QETB1CM-107	100MF 16V ELECTRO	
	C463	QEK51CM-106G	10MF 16V ELECTRO	
	C464	QEK51CM-106G	10MF 16V ELECTRO	
	C475	QETB1AM-476	47MF 10V ELECTRO	
	C477	QCVB1CM-103	0.01MF 16V CERAMIC	
	C478	QETB1AM-476	47MF 10V ELECTRO	
	C479	QETB1AM-476	47MF 10V ELECTRO	
	C481	QETB1CM-476	47MF 16V ELECTRO	
	C488	QETB1CM-226	22MF 16V ELECTRO	

⚠ :SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R205	QRD167J-473	47K 1/6W CARBON	
	R209	QRD167J-104	100K 1/6W CARBON	
	R301	QRD167J-271	270 1/6W CARBON	
	R302	QRD167J-271	270 1/6W CARBON	
	R303	QRD167J-271	270 1/6W CARBON	
	R304	QRD167J-561	560 1/6W CARBON	
	R305	QRD167J-561	560 1/6W CARBON	
	R306	QRD167J-561	560 1/6W CARBON	
	R309	QRD167J-473	47K 1/6W CARBON	
	R310	QRD167J-473	47K 1/6W CARBON	

⚠ :SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R311	QRD167J-103	10K 1/6W CARBON	
	R312	QRD167J-103	10K 1/6W CARBON	
	R313	QRD167J-153	15K 1/6W CARBON	
	R314	QRD167J-153	15K 1/6W CARBON	
	R317	QRD167J-243	24K 1/6W CARBON	
	R318	QRD167J-243	24K 1/6W CARBON	
⚠	R321	QRD14CJ-220S	22 1/4W UNF.CARBON	A
⚠	R321	QRZ0077-220	22 1/4W FUSIBLE	B
⚠	R321	QRZ0077-220	22 1/4W FUSIBLE	C
⚠	R321	QRZ0077-220	22 1/4W FUSIBLE	D
⚠	R321	QRZ0077-220	22 1/4W FUSIBLE	E
⚠	R321	QRZ0077-220	22 1/4W FUSIBLE	F
⚠	R321	QRZ0077-220	22 1/4W FUSIBLE	G
⚠	R321	QRZ0077-220	22 1/4W FUSIBLE	H
	R322	QRD167J-753	75K 1/6W CARBON	
	R323	QRD167J-105	1M 1/6W CARBON	
	R324	QRD167J-103	10K 1/6W CARBON	
	R325	QRD167J-753	75K 1/6W CARBON	
	R326	QRD167J-105	1M 1/6W CARBON	
	R327	QRD167J-473	47K 1/6W CARBON	
	R328	QRD167J-473	47K 1/6W CARBON	
	R332	QRD167J-332	3.3K 1/6W CARBON	
	R333	QRD167J-104	100K 1/6W CARBON	
	R334	QRD167J-181	180 1/6W CARBON	
	R335	QRD167J-201	200 1/6W CARBON	
⚠	R336	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R336	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R336	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R336	QRZ0077-100	10 1/4W FUSIBLE	D
⚠	R336	QRZ0077-100	10 1/4W FUSIBLE	E
⚠	R336	QRZ0077-100	10 1/4W FUSIBLE	F
⚠	R336	QRZ0077-100	10 1/4W FUSIBLE	G
⚠	R336	QRZ0077-100	10 1/4W FUSIBLE	H
	R341	QRD167J-100	10 1/6W CARBON	
	R342	QRD167J-100	10 1/6W CARBON	
	R343	QRD167J-222	2.2K 1/6W CARBON	
⚠	R344	QRD14CJ-5R6S	5.6 1/4W UNF.CARBON	
	R347	QRD167J-224	220K 1/6W CARBON	
	R348	QRD167J-224	220K 1/6W CARBON	
	R349	QRD167J-223	22K 1/6W CARBON	
	R353	QRD167J-153	15K 1/6W CARBON	
	R354	QRD167J-153	15K 1/6W CARBON	
	R355	QRD167J-243	24K 1/6W CARBON	
	R356	QRD167J-243	24K 1/6W CARBON	
	R357	QRD167J-332	3.3K 1/6W CARBON	
	R358	QRD167J-332	3.3K 1/6W CARBON	
	R359	QRD167J-223	22K 1/6W CARBON	
	R360	QRD167J-223	22K 1/6W CARBON	
	R361	QRD167J-561	560 1/6W CARBON	
	R362	QRD167J-561	560 1/6W CARBON	
	R363	QRD167J-272	2.7K 1/6W CARBON	
	R364	QRD167J-272	2.7K 1/6W CARBON	
	R365	QRD167J-103	10K 1/6W CARBON	
	R366	QRD167J-105	1M 1/6W CARBON	
	R369	QRD167J-102	1K 1/6W CARBON	
	R370	QRD167J-102	1K 1/6W CARBON	
	R371	QRD167J-562	5.6K 1/6W CARBON	
	R372	QRD167J-562	5.6K 1/6W CARBON	
	R373	QRD167J-103	10K 1/6W CARBON	
	R374	QRD167J-103	10K 1/6W CARBON	
	R375	QRD167J-473	47K 1/6W CARBON	
	R376	QRD167J-473	47K 1/6W CARBON	
	R377	QRD167J-103	10K 1/6W CARBON	
	R378	QRD167J-103	10K 1/6W CARBON	
	R379	QRD167J-103	10K 1/6W CARBON	
	R380	QRD167J-103	10K 1/6W CARBON	
	R389	QRD167J-221	220 1/6W CARBON	
	R390	QRD167J-221	220 1/6W CARBON	
	R391	QRD167J-822	8.2K 1/6W CARBON	
	R392	QRD167J-822	8.2K 1/6W CARBON	
	R395	QRD167J-103	10K 1/6W CARBON	
	R396	QRD167J-103	10K 1/6W CARBON	
	R398	QRD167J-102	1K 1/6W CARBON	
	R401	QRD167J-333	33K 1/6W CARBON	
	R402	QRD167J-333	33K 1/6W CARBON	
	R403	QRD167J-302	3K 1/6W CARBON	
	R404	QRD167J-302	3K 1/6W CARBON	
	R405	QRD167J-683	68K 1/6W CARBON	
	R406	QRD167J-683	68K 1/6W CARBON	
	R407	QRD167J-153	15K 1/6W CARBON	
	R408	QRD167J-153	15K 1/6W CARBON	
	R409	QRD167J-153	15K 1/6W CARBON	
	R410	QRD167J-153	15K 1/6W CARBON	
	R411	QRD167J-332	3.3K 1/6W CARBON	
	R412	QRD167J-332	3.3K 1/6W CARBON	
	R413	QRD167J-182	1.8K 1/6W CARBON	
	R414	QRD167J-182	1.8K 1/6W CARBON	
	R415	QRD167J-511	510 1/6W CARBON	
	R416	QRD167J-511	510 1/6W CARBON	
	R417	QRD167J-301	300 1/6W CARBON	

⚠ :SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R418	QRD167J-301	300 1/6W CARBON	
	R423	QRD167J-681	680 1/6W CARBON	
	R424	QRD167J-681	680 1/6W CARBON	
	R431	QRD167J-394	390K 1/6W CARBON	
	R432	QRD167J-394	390K 1/6W CARBON	
	R433	QRD167J-221	220 1/6W CARBON	
	R440	QRD167J-221	220 1/6W CARBON	
	R441	QRD167J-681	680 1/6W CARBON	
	R442	QRD167J-681	680 1/6W CARBON	
	R443	QRD167J-183	18K 1/6W CARBON	
⚠	R444	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	A
⚠	R444	QRZ0077-4R7	4.7 1/4W FUSIBLE	B
⚠	R444	QRZ0077-4R7	4.7 1/4W FUSIBLE	C
⚠	R444	QRZ0077-4R7	4.7 1/4W FUSIBLE	D
⚠	R444	QRZ0077-4R7	4.7 1/4W FUSIBLE	E
⚠	R444	QRZ0077-4R7	4.7 1/4W FUSIBLE	F
⚠	R444	QRZ0077-4R7	4.7 1/4W FUSIBLE	G
⚠	R444	QRZ0077-4R7	4.7 1/4W FUSIBLE	H
	R445	QRD167J-224	220K 1/6W CARBON	
	R446	QRD167J-103	10K 1/6W CARBON	
	R447	QRD167J-103	10K 1/6W CARBON	
	R448	QRD167J-223	22K 1/6W CARBON	
	R449	QRD167J-472	4.7K 1/6W CARBON	
	R453	QRD167J-470	47 1/6W CARBON	
	R454	QRD167J-470	47 1/6W CARBON	
	R455	QRD167J-334	330K 1/6W CARBON	
	R456	QRD167J-334	330K 1/6W CARBON	
	R457	QRD167J-432	4.3K 1/6W CARBON	
	R458	QRD167J-432	4.3K 1/6W CARBON	
	R459	QRD167J-302	3K 1/6W CARBON	
	R460	QRD167J-302	3K 1/6W CARBON	
	R461	QRD167J-512	5.1K 1/6W CARBON	
	R462	QRD167J-512	5.1K 1/6W CARBON	
	R463	QRD167J-752	7.5K 1/6W CARBON	
	R464	QRD167J-752	7.5K 1/6W CARBON	
	R465	QRD167J-223	22K 1/6W CARBON	
	R466	QRD167J-223	22K 1/6W CARBON	
	R467	QRD167J-105	1M 1/6W CARBON	
	R468	QRD167J-105	1M 1/6W CARBON	
	R469	QRD167J-105	1M 1/6W CARBON	
	R470	QRD167J-105	1M 1/6W CARBON	
	R471	QRD167J-471	470 1/6W CARBON	
	R472	QRD167J-472	4.7K 1/6W CARBON	
	R473	QRD167J-472	4.7K 1/6W CARBON	
	R474	QRD167J-274	270K 1/6W CARBON	
	R475	QRD167J-104	100K 1/6W CARBON	
	R476	QRD167J-102	1K 1/6W CARBON	
	R481	QRD167J-153	15K 1/6W CARBON	
	R482	QRD167J-183	18K 1/6W CARBON	
	R483	QRD167J-184	180K 1/6W CARBON	
	R484	QRD167J-224	220K 1/6W CARBON	
	R485	QRD167J-683	68K 1/6W CARBON	
	R486	QRD167J-224	220K 1/6W CARBON	
	R487	QRD167J-224	220K 1/6W CARBON	
	R488	QRD167J-105	1M 1/6W CARBON	
	R489	QRD167J-103	10K 1/6W CARBON	
	R490	QRD167J-103	10K 1/6W CARBON	
	R491	QRD167J-103	10K 1/6W CARBON	
	R492	QRD167J-103	10K 1/6W CARBON	
	R493	QRD167J-103	10K 1/6W CARBON	
	R494	QRD167J-103	10K 1/6W CARBON	
	R495	QRD167J-103	10K 1/6W CARBON	
	R496	QRD167J-103	10K 1/6W CARBON	
	R497	QRD167J-102	1K 1/6W CARBON	
	R498	QRD167J-102	1K 1/6W CARBON	
	R501	QRD167J-103	10K 1/6W CARBON	
	R502	QRD167J-103	10K 1/6W CARBON	
	R505	QRD167J-103	10K 1/6W CARBON	
	R506	QRD167J-103	10K 1/6W CARBON	
	R507	QRD167J-103	10K 1/6W CARBON	
	R508	QRD167J-103	10K 1/6W CARBON	
	R509	QRD167J-223	22K 1/6W CARBON	
	R510	QRD167J-103	10K 1/6W CARBON	
	R511	QRD167J-223	22K 1/6W CARBON	
	R512	QRD167J-103	10K 1/6W CARBON	
	R513	QRD167J-151	150 1/6W CARBON	
	R514	QRD167J-271	270 1/6W CARBON	
	R515	QRD167J-103	10K 1/6W CARBON	
	R517	QRD167J-221	220 1/6W CARBON	
	R518	QRD167J-221	220 1/6W CARBON	
	R521	QRD167J-103	10K 1/6W CARBON	
	R522	QRD167J-271	270 1/6W CARBON	
	VR281	QVPA601-204A	200K VARIABLE	
	VR282	QVPA601-204A	200K VARIABLE	
	VR311	QVPA601-503A	50K VARIABLE	
	VR312	QVPA601-503A	50K VARIABLE	
	VR331	QVPA601-204A	200K VARIABLE	
	VR332	QVPA601-204A	200K VARIABLE	
	VR451	QVPA601-201A	200 VARIABLE	
	VR452	QVPA601-201A	200 VARIABLE	
	VR453	QVPA601-201A	200 VARIABLE	
	VR454	QVPA601-201A	200 VARIABLE	
	VR463	QVPA601-204A	200K VARIABLE	
	VR464	QVPA601-204A	200K VARIABLE	
	VR481	QVPA603-103A	10K VARIABLE	
	VR482	QVPA603-203A	20K VARIABLE	

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10184-004	PRINTED BOARD	
		QWE350-18DD	WIRE	
		QWE370-06DD	WIRE	
	J211	EMV7122-004	CONNECTOR(4PIN)	
	J221	EMV7122-103	CONNECTOR(3PIN)	B
	J485	EMV7122-103	CONNECTOR(3PIN)	
	J486	EMV7122-004	CONNECTOR(4PIN)	
	J487	EMV7122-103	CONNECTOR(3PIN)	
	J495	EMV7122-004	CONNECTOR(4PIN)	
	J496	EMV7122-005	CONNECTOR(5PIN)	
	J497	EMV7122-004	CONNECTOR(4PIN)	
	K301	ENZ8101-007	INDUCTOR	D
	K301	ENZ8101-007	INDUCTOR	E
	K301	ENZ8101-007	INDUCTOR	F
	K301	ENZ8101-007	INDUCTOR	G
	K301	ENZ8101-007	INDUCTOR	H
	K302	ENZ8101-007	INDUCTOR	D
	K302	ENZ8101-007	INDUCTOR	E
	K302	ENZ8101-007	INDUCTOR	F
	K302	ENZ8101-007	INDUCTOR	G
	K302	ENZ8101-007	INDUCTOR	H
	K303	ENZ8101-007	INDUCTOR	D
	K303	ENZ8101-007	INDUCTOR	E
	K303	ENZ8101-007	INDUCTOR	F
	K303	ENZ8101-007	INDUCTOR	G
	K303	ENZ8101-007	INDUCTOR	H
	L331	ENZ6002-010	OSCILLATOR COIL	
	L333	EQL2103-223	INDUCTOR	
	L334	EQL2103-223	INDUCTOR	
	L401	EQL2103-562	INDUCTOR	
	L402	EQL2103-562	INDUCTOR	
	L437	EQL2103-223	INDUCTOR	
	L438	EQL2103-223	INDUCTOR	
	P331	QMV5011-007K	PLUG ASSY(7PIN)	
	P333	QMV5011-003K	PLUG ASSY(3PIN)	
	P492	EMV5109-007A	PLUG ASSY(7PIN)	
	P493	EMV5109-008A	PLUG ASSY(8PIN)	
	S201	ESP0001-023M	TACT SWITCH(WAKE UP/SLEEP)	
	S202	ESP0001-023M	TACT SWITCH(TIMER 1)	
	S203	ESP0001-023M	TACT SWITCH(TIMER 2)	
	S204	ESP0001-023M	TACT SWITCH(DAIRY)	
	S205	ESP0001-023M	TACT SWITCH(CLOCK ADJ)	
	S206	ESP0001-023M	TACT SWITCH(CANCEL)	
	S207	ESP0001-023M	TACT SWITCH(MEMORY)	
	S208	ESP0001-023M	TACT SWITCH(FM MODE/MUTE)	
	S209	ESP0001-023M	TACT SWITCH(FM)	
	S210	ESP0001-023M	TACT SWITCH(AM)	
	S211	ESP0001-023M	TACT SWITCH(DOWN)	
	S212	ESP0001-023M	TACT SWITCH(UP)	
	S213	ESP0001-023M	TACT SWITCH(PRESET DOWN)	
	S214	ESP0001-023M	TACT SWITCH(PRESET UP)	
	S301	ESP0001-023M	TACT SWITCH(A REW)	
	S302	ESP0001-023M	TACT SWITCH(A F.FWD)	
	S303	ESP0001-023M	TACT SWITCH(A F.PLAY)	
	S310	ESP0001-023M	TACT SWITCH(B R.PALY)	
	S311	ESP0001-023M	TACT SWITCH(B REW)	
	S312	ESP0001-023M	TACT SWITCH(B F.FWD)	
	S313	ESP0001-023M	TACT SWITCH(B F.PLAY)	
	S320	ESP0001-023M	TACT SWITCH(A STOP)	
	S321	ESP0001-023M	TACT SWITCH(B STOP)	
	S322	ESP0001-023M	TACT SWITCH(B REC)	
	S323	ESP0001-023M	TACT SWITCH(B PAUSE)	
	S330	ESP0001-023M	TACT SWITCH(DUBBING)	
	S331	ESP0001-023M	TACT SWITCH(DOLBY)	
	S332	ESP0001-023M	TACT SWITCH(REV.MODE)	
	S333	ESP0001-023M	TACT SWITCH(CD.REC)	
	S461	ESB1100-007	LEAF SWITCH(FWD REC)	
	S463	ESB1100-007	LEAF SWITCH(B PACK)	
	S464	ESB1100-007	LEAF SWITCH(B CrO_2)	
	S465	ESB1100-007	LEAF SWITCH(REV REC)	
	S466	ESB1100-007	LEAF SWITCH(A CrO_2)	
	S467	ESB1100-007	LEAF SWITCH(A PACK)	
	BC492	EWS267-G416J2	SOCKET WIRE	
	BC493	EWS268-G416J2	SOCKET WIRE	
	BK201	E306958-002	FL DISPLAY HOLDER	
	EP301	E70859-001	EARTH PLATE	
	FL201	ELU0001-101	FL TUBE	
	FS201	E306805-021	FELT SPACER	
	FW101	EWR39B-25LST	FLAT WIRE(9PIN)	
	FW102	EWR37B-25LST	FLAT WIRE(7PIN)	A
	FW102	EWR39B-25LST	FLAT WIRE(9PIN)	B
	FW102	EWR37B-25LST	FLAT WIRE(7PIN)	C
	FW102	EWR37B-25LST	FLAT WIRE(7PIN)	D
	FW102	EWR37B-25LST	FLAT WIRE(7PIN)	E
	FW102	EWR37B-25LST	FLAT WIRE(7PIN)	F
	FW102	EWR37B-25LST	FLAT WIRE(7PIN)	G
	FW102	EWR37B-25LST	FLAT WIRE(7PIN)	H
	FW481	EWR36B-13SST	FLAT WIRE(6PIN)	
	FW485	EWR37B-10LST	FLAT WIRE(7PIN)	
	FW486	EWR39B-13LST	FLAT WIRE(9PIN)	
	FW487	EWR37B-10LST	FLAT WIRE(7PIN)	
	FW495	EWR34B-08LST	FLAT WIRE(4PIN)	
	FW496	EWR38B-08LST	FLAT WIRE(8PIN)	
	FW497	EWR37B-10LST	FLAT WIRE(7PIN)	
	FW498	EWR37B-10LST	FLAT WIRE(7PIN)	

⚠ : SAFETY PARTS

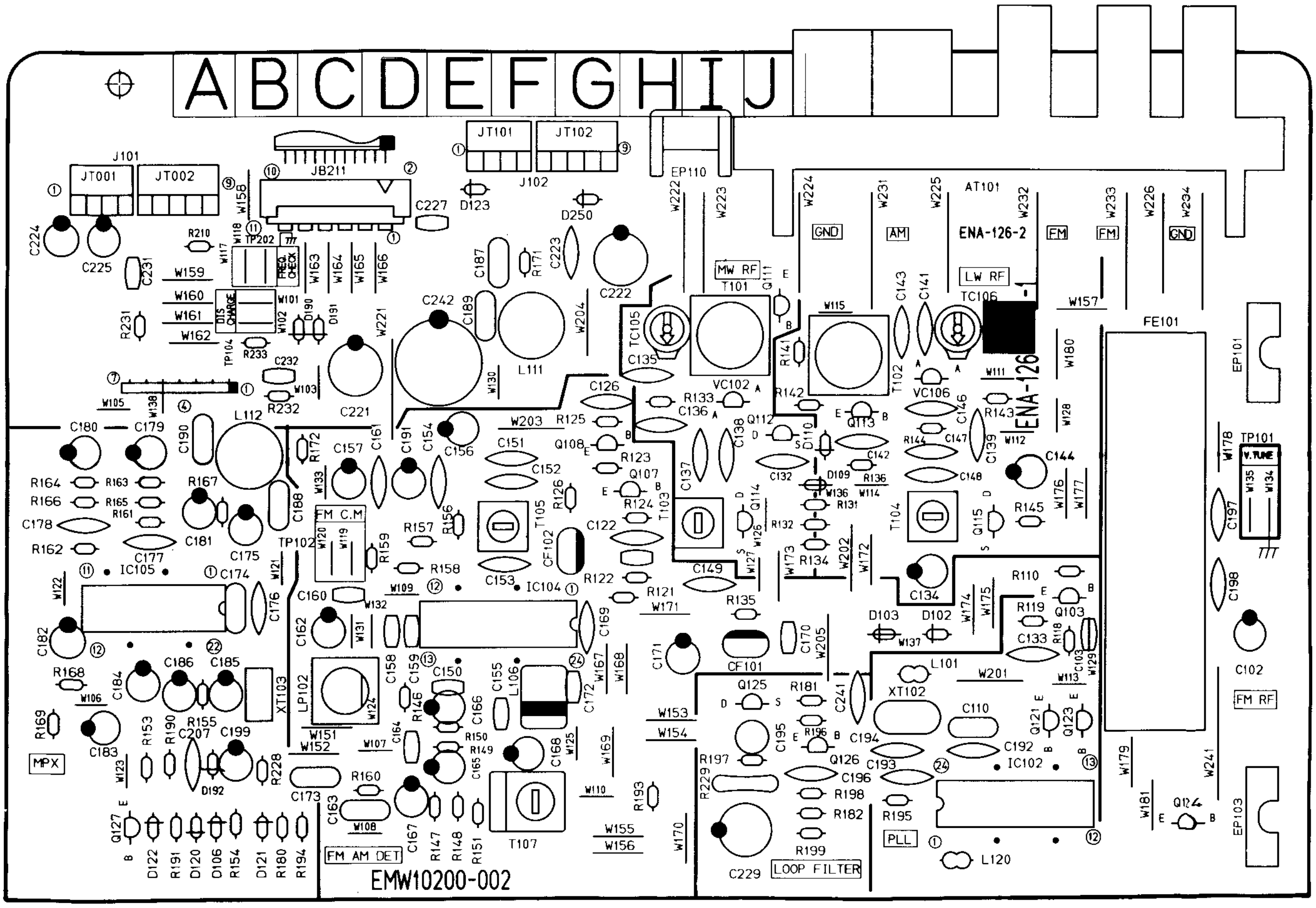
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	JB331	EMV7141-015	CONNECTOR(15PIN)	
	SP301	E406238-002SM	P.W.BOARD BRACKET	
	SW310	QSS7A12-E01	SLIDE SWITCH(BEAT CUT SW)	
	SW320	QSS7A12-E01	SLIDE SWITCH	B
	TC201	ENZ1003-015	TRIMMER	
	XT201	ECX4194-304CF	RESONATOR	
	XT491	ECX0004-194KM	RESONATOR	

⚠ : SAFETY PARTS

■ENA-126 ☐ Tuner PC Board Ass'y

Note : ENA-126 ☐ varies according to the areas employed. See note (1) when placing an order.


A
B
C
D
E
F
G
H
I
J
J101
JT001
JT002
JB211
JT101
JT102
J102
EP110
AT101
ENA-126-2
GND
AM
FM
MW RF
LW RF
T101
TC105
TC106
VC102
VC106
L111
L112
FE101
EP101
EP103
TP101
V.TUNE
FM C.M
FREQ. CHECK
IC105
IC104
IC102
T105
T107
LP102
XT102
L106
L101
L120
CF101
CF102
TP102
TP104
TP202
MPX
FM AM DET
PLL
LOOP FILTER
FM RF
ENA-126
EMW10200-002
C242
C221
C222
C229
C102
C144
C134
Q103
Q107
Q108
Q111
Q112
Q113
Q114
Q115
Q121
Q123
Q124
Q125
Q126
Q127

Note (1)

PC Board Ass'y	Designated Areas
ENA-126 A	the U.S.A., Canada
ENA-126 B	Universal Type
ENA-126 C	Australia
ENA-126 D	Continental Europe, Scandinavia
ENA-126 E	Germany
ENA-126 F	the U.K.
ENA-126 G	Italy
ENA-126 H	Poland, Soviet Union and Rumania

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	Q103	2SC461(B,C)	SILICON	HITACHI	
	Q107	2SC535(B,C)	SILICON	HITACHI	
	Q108	2SC461(B,C)	SILICON	HITACHI	
	Q111	2SD2144S(VW)	SILICON	ROHM	D
	Q111	2SD2144S(VW)	SILICON	ROHM	E
	Q111	2SD2144S(VW)	SILICON	ROHM	F
	Q111	2SD2144S(VW)	SILICON	ROHM	G
	Q111	2SD2144S(VW)	SILICON	ROHM	H
	Q112	2SK301(Q,R)	F.E.T	MATSUSHITA	
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	D
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	E
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	F
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	G
	Q113	2SK301(Q,R)	F.E.T	MATSUSHITA	H
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	D
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	E
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	F
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	G
	Q114	2SK301(P,Q)	F.E.T	MATSUSHITA	H
	Q115	2SK301(P,Q)	F.E.T	MATSUSHITA	D

⚠ : SAFETY PARTS

Transistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q115	2SK301(P,Q)	F.E.T MATSUSHITA	E
	Q115	2SK301(P,Q)	F.E.T MATSUSHITA	F
	Q115	2SK301(P,Q)	F.E.T MATSUSHITA	G
	Q115	2SK301(P,Q)	F.E.T MATSUSHITA	H
	Q121	DTA114ES	SILICON ROHM	D
	Q121	DTA114ES	SILICON ROHM	E
	Q121	DTA114ES	SILICON ROHM	F
	Q121	DTA114ES	SILICON ROHM	G
	Q121	DTA114ES	SILICON ROHM	H
	Q123	DTA114ES	SILICON ROHM	
	Q124	DTA114ES	SILICON ROHM	
	Q125	2SK301(Q2)	F.E.T MATSUSHITA	
	Q126	2SC458(D)	SILICON HITACHI	
	Q127	DTC144ES	SILICON ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC102	LC7218	I.C. SANYO	
	IC104	LA1266A	I.C. SANYO	
	IC105	LA3401	I.C. SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D102	1SS133	SILICON ROHM	D
	D102	1SS133	SILICON ROHM	E
	D102	1SS133	SILICON ROHM	F
	D102	1SS133	SILICON ROHM	G
	D102	1SS133	SILICON ROHM	H
	D103	1SS133	SILICON ROHM	D
	D103	1SS133	SILICON ROHM	E
	D103	1SS133	SILICON ROHM	F
	D103	1SS133	SILICON ROHM	G
	D103	1SS133	SILICON ROHM	H
	D106	1SS133	SILICON ROHM	
	D109	1SS133	SILICON ROHM	D
	D109	1SS133	SILICON ROHM	E
	D109	1SS133	SILICON ROHM	F
	D109	1SS133	SILICON ROHM	G
	D109	1SS133	SILICON ROHM	H
	D110	1SS133	SILICON ROHM	D
	D110	1SS133	SILICON ROHM	E
	D110	1SS133	SILICON ROHM	F
	D110	1SS133	SILICON ROHM	G
	D110	1SS133	SILICON ROHM	H
	D120	1SS133	SILICON ROHM	
	D121	1SS133	SILICON ROHM	
	D122	1SS133	SILICON ROHM	
	D123	1SS133	SILICON ROHM	
	D190	1SS133	SILICON ROHM	
	D191	1SS133	SILICON ROHM	
	D192	MTZ5.1JC	ZENER ROHM	
	D250	1SS133	SILICON ROHM	
	VC102	SVC342(L)	VARICAP SANYO	
	VC106	SVC342(L)	VARICAP SANYO	D
	VC106	SVC342(L)	VARICAP SANYO	E
	VC106	SVC342(L)	VARICAP SANYO	F
	VC106	SVC342(L)	VARICAP SANYO	G
	VC106	SVC342(L)	VARICAP SANYO	H

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C102	QETB1HM-226	22MF 50V ELECTRO	E
	C102	QETB1HM-226	22MF 50V ELECTRO	G
	C103	QCVB1CM-103	0.01MF 16V CERAMIC	H
	C110	QCZ0202-155	1.5MF 25V CERAMIC	
	C122	QCF21HP-223	0.022MF 50V CERAMIC	
	C126	QCF21HP-223	0.022MF 50V CERAMIC	
	C132	QCS21HJ-561	560PF 50V CERAMIC	
	C133	QCF21HP-223	0.022MF 50V CERAMIC	
	C134	QETB1EM-106	10MF 25V ELECTRO	
	C135	QCC21EM-223	0.022MF 25V CERAMIC	
	C136	QCT26CH-180	18PF 50V CERAMIC	
	C137	QCT26CH-221	220PF 50V CERAMIC	
	C138	QCT26CH-241	240PF 50V CERAMIC	
	C139	QCC21EM-223	0.022MF 25V CERAMIC	D
	C139	QCC21EM-223	0.022MF 25V CERAMIC	E
	C139	QCC21EM-223	0.022MF 25V CERAMIC	F
	C139	QCC21EM-223	0.022MF 25V CERAMIC	G
	C139	QCC21EM-223	0.022MF 25V CERAMIC	H
	C141	QCS21HJ-270	27PF 50V CERAMIC	D
	C141	QCS21HJ-270	27PF 50V CERAMIC	E

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C141	QCS21HJ-270	27PF 50V CERAMIC	F
	C141	QCS21HJ-270	27PF 50V CERAMIC	G
	C141	QCS21HJ-270	27PF 50V CERAMIC	H
	C142	QCY21HK-272	2700PF 50V CERAMIC	D
	C142	QCY21HK-272	2700PF 50V CERAMIC	E
	C142	QCY21HK-272	2700PF 50V CERAMIC	F
	C142	QCY21HK-272	2700PF 50V CERAMIC	G
	C142	QCY21HK-272	2700PF 50V CERAMIC	H
	C143	QCF21HP-223	0.022MF 50V CERAMIC	D
	C143	QCF21HP-223	0.022MF 50V CERAMIC	E
	C143	QCF21HP-223	0.022MF 50V CERAMIC	F
	C143	QCF21HP-223	0.022MF 50V CERAMIC	G
	C143	QCF21HP-223	0.022MF 50V CERAMIC	H
	C144	QETB1EM-106	10MF 25V ELECTRO	D
	C144	QETB1EM-106	10MF 25V ELECTRO	E
	C144	QETB1EM-106	10MF 25V ELECTRO	F
	C144	QETB1EM-106	10MF 25V ELECTRO	G
	C144	QETB1EM-106	10MF 25V ELECTRO	H
	C146	QCT26CH-680	68PF 50V CERAMIC	D
	C146	QCT26CH-680	68PF 50V CERAMIC	E
	C146	QCT26CH-680	68PF 50V CERAMIC	F
	C146	QCT26CH-680	68PF 50V CERAMIC	G
	C146	QCT26CH-680	68PF 50V CERAMIC	H
	C147	QCT26CH-220	22PF 50V CERAMIC	D
	C147	QCT26CH-220	22PF 50V CERAMIC	E
	C147	QCT26CH-220	22PF 50V CERAMIC	F
	C147	QCT26CH-220	22PF 50V CERAMIC	G
	C147	QCT26CH-220	22PF 50V CERAMIC	H
	C148	QCT26CH-121	120PF 50V CERAMIC	D
	C148	QCT26CH-121	120PF 50V CERAMIC	E
	C148	QCT26CH-121	120PF 50V CERAMIC	F
	C148	QCT26CH-121	120PF 50V CERAMIC	G
	C148	QCT26CH-121	120PF 50V CERAMIC	H
	C149	QCF21HP-223	0.022MF 50V CERAMIC	
	C150	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C151	QCF21HP-223	0.022MF 50V CERAMIC	
	C152	QCF21HP-223	0.022MF 50V CERAMIC	
	C153	QCC21EM-223	0.022MF 25V CERAMIC	
	C154	QCF21HP-223	0.022MF 50V CERAMIC	
	C155	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C156	QETB1EM-106	10MF 25V ELECTRO	
	C157	QETB1HM-474	0.47MF 50V ELECTRO	
	C158	QCBB1HK-101	100PF 50V CERAMIC	
	C159	QCBB1HK-101	100PF 50V CERAMIC	
	C160	QCBB1HK-221	220PF 50V CERAMIC	A
	C160	QCBB1HK-221	220PF 50V CERAMIC	B
	C160	QCBB1HK-221	220PF 50V CERAMIC	C
	C160	QCBB1HK-101	100PF 50V CERAMIC	D
	C160	QCBB1HK-221	220PF 50V CERAMIC	E
	C160	QCBB1HK-101	100PF 50V CERAMIC	F
	C160	QCBB1HK-221	220PF 50V CERAMIC	G
	C160	QCBB1HK-221	220PF 50V CERAMIC	H
	C161	QCF21HP-223	0.022MF 50V CERAMIC	
	C162	QETB1EM-106	10MF 25V ELECTRO	
	C163	QFLB1HJ-102	1000PF 50V MYLAR	
	C164	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C165	QETB1HM-474	0.47MF 50V ELECTRO	
	C166	QETB1HM-225	2.2MF 50V ELECTRO	
	C167	QETB1HM-225	2.2MF 50V ELECTRO	
	C168	QETB1HM-475	4.7MF 50V ELECTRO	
	C169	QCF21HP-223	0.022MF 50V CERAMIC	
	C170	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C171	QETB1EM-106	10MF 25V ELECTRO	
	C172	QCVB1CM-103	0.01MF 16V CERAMIC	
	C173	QFLB1HJ-393	0.039MF 50V MYLAR	A
	C173	QFLB1HJ-393	0.039MF 50V MYLAR	B
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	C
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	D
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	E
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	F
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	G
	C173	QFLB1HJ-223	0.022MF 50V MYLAR	H
	C174	QFLB1HJ-473	0.047MF 50V MYLAR	
	C175	QETB1EM-106	10MF 25V ELECTRO	
	C176	QCY21HK-102	1000PF 50V CERAMIC	
	C177	QCS21HJ-821	820PF 50V CERAMIC	A
	C177	QCS21HJ-821	820PF 50V CERAMIC	B
	C177	QCS21HJ-561	560PF 50V CERAMIC	C
	C177	QCS21HJ-561	560PF 50V CERAMIC	D
	C177	QCS21HJ-561	560PF 50V CERAMIC	E
	C177	QCS21HJ-821	820PF 50V CERAMIC	F
	C177	QCS21HJ-561	560PF 50V CERAMIC	G
	C177	QCS21HJ-561	560PF 50V CERAMIC	H
	C178	QCS21HJ-821	820PF 50V CERAMIC	A
	C178	QCS21HJ-821	820PF 50V CERAMIC	B
	C178	QCS21HJ-561	560PF 50V CERAMIC	C
	C178	QCS21HJ-561	560PF 50V CERAMIC	D
	C178	QCS21HJ-561	560PF 50V CERAMIC	E
	C178	QCS21HJ-821	820PF 50V CERAMIC	F
	C178	QCS21HJ-561	560PF 50V CERAMIC	G
	C178	QCS21HJ-561	560PF 50V CERAMIC	H
	C179	QETB1HM-225	2.2MF 50V ELECTRO	
	C180	QETB1HM-225	2.2MF 50V ELECTRO	
	C181	QETB1EM-106	10MF 25V ELECTRO	
	C182	QETB1HM-225	2.2MF 50V ELECTRO	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C183	QETB1HM-105	1MF 50V ELECTRO	
	C184	QETB1HM-105	1MF 50V ELECTRO	
	C185	QETB1HM-225	2.2MF 50V ELECTRO	
	C186	QETB1HM-474	0.47MF 50V ELECTRO	
	C187	QFLB1HJ-332	3300PF 50V MYLAR	A
	C187	QFLB1HJ-332	3300PF 50V MYLAR	B
	C187	QFLB1HJ-102	1000PF 50V MYLAR	C
	C187	QFLB1HJ-102	1000PF 50V MYLAR	D
	C187	QFLB1HJ-102	1000PF 50V MYLAR	E
	C187	QFLB1HJ-332	3300PF 50V MYLAR	F
	C187	QFLB1HJ-102	1000PF 50V MYLAR	G
	C187	QFLB1HJ-102	1000PF 50V MYLAR	H
	C188	QFLB1HJ-332	3300PF 50V MYLAR	A
	C188	QFLB1HJ-332	3300PF 50V MYLAR	B
	C188	QFLB1HJ-102	1000PF 50V MYLAR	C
	C188	QFLB1HJ-102	1000PF 50V MYLAR	D
	C188	QFLB1HJ-102	1000PF 50V MYLAR	E
	C188	QFLB1HJ-332	3300PF 50V MYLAR	F
	C188	QFLB1HJ-102	1000PF 50V MYLAR	G
	C188	QFLB1HJ-102	1000PF 50V MYLAR	H
	C189	QFLB1HJ-182	1800PF 50V MYLAR	
	C190	QFLB1HJ-182	1800PF 50V MYLAR	
	C191	QETB1HM-475	4.7MF 50V ELECTRO	
	C192	QCC21EM-473	0.047MF 25V CERAMIC	
	C193	QCS21HJ-180	18PF 50V CERAMIC	
	C194	QCS21HJ-180	18PF 50V CERAMIC	
	C195	QEN51HM-474	0.47MF 50V NON POLE	
	C196	QCY21HK-102	1000PF 50V CERAMIC	
	C197	QCF21HP-223	0.022MF 50V CERAMIC	
	C198	QCF21HP-103	0.01MF 50V CERAMIC	
	C199	QETB1HM-475	4.7MF 50V ELECTRO	
	C207	QCF21HP-223	0.022MF 50V CERAMIC	
	C221	QETB0JM-477	470MF 6.3V ELECTRO	
	C222	QETB1CM-477	470MF 16V ELECTRO	
	C223	QCF21HP-103	0.01MF 50V CERAMIC	
	C224	QETB1HM-226	22MF 50V ELECTRO	
	C225	QETB1HM-226	22MF 50V ELECTRO	
	C227	QCVB1CM-103	0.01MF 16V CERAMIC	
	C229	QETB1CM-477	470MF 16V ELECTRO	
	C231	QCVB1CM-103	0.01MF 16V CERAMIC	
	C232	QCVB1CM-103	0.01MF 16V CERAMIC	
	C241	QCF21HP-223	0.022MF 50V CERAMIC	
	C242	QEA40HZ-10AB	ELECTRO	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R110	QRD167J-473	47K 1/6W CARBON	H
	R118	QRD167J-332	3.3K 1/6W CARBON	
	R119	QRD167J-221	220 1/6W CARBON	
	R121	QRD167J-391	390 1/6W CARBON	
	R122	QRD167J-272	2.7K 1/6W CARBON	
	R123	QRD167J-102	1K 1/6W CARBON	
	R124	QRD167J-681	680 1/6W CARBON	
	R125	QRD167J-332	3.3K 1/6W CARBON	
	R126	QRD167J-221	220 1/6W CARBON	
	R131	QRD167J-331	330 1/6W CARBON	
	R132	QRD167J-103	10K 1/6W CARBON	
	R133	QRD167J-473	47K 1/6W CARBON	
	R134	QRD167J-103	10K 1/6W CARBON	D
	R134	QRD167J-103	10K 1/6W CARBON	E
	R134	QRD167J-103	10K 1/6W CARBON	F
	R134	QRD167J-103	10K 1/6W CARBON	G
	R134	QRD167J-103	10K 1/6W CARBON	H
	R135	QRD167J-470	47 1/6W CARBON	
	R136	QRD167J-103	10K 1/6W CARBON	D
	R136	QRD167J-103	10K 1/6W CARBON	E
	R136	QRD167J-103	10K 1/6W CARBON	F
	R136	QRD167J-103	10K 1/6W CARBON	G
	R136	QRD167J-103	10K 1/6W CARBON	H
	R141	QRD167J-472	4.7K 1/6W CARBON	D
	R141	QRD167J-472	4.7K 1/6W CARBON	E
	R141	QRD167J-472	4.7K 1/6W CARBON	F
	R141	QRD167J-472	4.7K 1/6W CARBON	G
	R141	QRD167J-472	4.7K 1/6W CARBON	H
	R142	QRD167J-331	330 1/6W CARBON	D
	R142	QRD167J-331	330 1/6W CARBON	E
	R142	QRD167J-331	330 1/6W CARBON	F
	R142	QRD167J-331	330 1/6W CARBON	G
	R142	QRD167J-331	330 1/6W CARBON	H
	R143	QRD167J-103	10K 1/6W CARBON	D
	R143	QRD167J-103	10K 1/6W CARBON	E
	R143	QRD167J-103	10K 1/6W CARBON	F
	R143	QRD167J-103	10K 1/6W CARBON	G
	R143	QRD167J-103	10K 1/6W CARBON	H
	R144	QRD167J-473	47K 1/6W CARBON	D
	R144	QRD167J-473	47K 1/6W CARBON	E
	R144	QRD167J-473	47K 1/6W CARBON	F
	R144	QRD167J-473	47K 1/6W CARBON	G
	R144	QRD167J-473	47K 1/6W CARBON	H
	R145	QRD167J-103	10K 1/6W CARBON	D
	R145	QRD167J-103	10K 1/6W CARBON	E

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R145	QRD167J-103	10K 1/6W CARBON	F
	R145	QRD167J-103	10K 1/6W CARBON	G
	R145	QRD167J-103	10K 1/6W CARBON	H
	R146	QRD167J-560	56 1/6W CARBON	
	R147	QRD167J-103	10K 1/6W CARBON	
	R148	QRD167J-103	10K 1/6W CARBON	
	R149	QRD167J-223	22K 1/6W CARBON	A
	R149	QRD167J-223	22K 1/6W CARBON	B
	R149	QRD167J-223	22K 1/6W CARBON	C
	R149	QRD167J-223	22K 1/6W CARBON	D
	R149	QRD167J-273	27K 1/6W CARBON	E
	R149	QRD167J-223	22K 1/6W CARBON	F
	R149	QRD167J-273	27K 1/6W CARBON	G
	R149	QRD167J-153	15K 1/6W CARBON	H
	R150	QRD167J-103	10K 1/6W CARBON	
	R151	QRD167J-222	2.2K 1/6W CARBON	
	R153	QRD167J-103	10K 1/6W CARBON	
	R154	QRD167J-103	10K 1/6W CARBON	
	R155	QRD167J-562	5.6K 1/6W CARBON	
	R156	QRD167J-822	8.2K 1/6W CARBON	
	R157	QRD167J-103	10K 1/6W CARBON	
	R158	QRD167J-183	18K 1/6W CARBON	A
	R158	QRD167J-273	27K 1/6W CARBON	B
	R158	QRD167J-273	27K 1/6W CARBON	C
	R158	QRD167J-273	27K 1/6W CARBON	D
	R158	QRD167J-273	27K 1/6W CARBON	E
	R158	QRD167J-273	27K 1/6W CARBON	F
	R158	QRD167J-273	27K 1/6W CARBON	G
	R158	QRD167J-273	27K 1/6W CARBON	H
	R159	QRD167J-561	560 1/6W CARBON	
	R160	QRD167J-562	5.6K 1/6W CARBON	A
	R160	QRD167J-562	5.6K 1/6W CARBON	B
	R160	QRD167J-103	10K 1/6W CARBON	C
	R160	QRD167J-103	10K 1/6W CARBON	D
	R160	QRD167J-103	10K 1/6W CARBON	E
	R160	QRD167J-102	1K 1/6W CARBON	F
	R160	QRD167J-103	10K 1/6W CARBON	G
	R160	QRD167J-103	10K 1/6W CARBON	H
	R161	QRD167J-823	82K 1/6W CARBON	A
	R161	QRD167J-823	82K 1/6W CARBON	B
	R161	QRD167J-104	100K 1/6W CARBON	C
	R161	QRD167J-104	100K 1/6W CARBON	D
	R161	QRD167J-104	100K 1/6W CARBON	E
	R161	QRD167J-683	68K 1/6W CARBON	F
	R161	QRD167J-104	100K 1/6W CARBON	G
	R161	QRD167J-104	100K 1/6W CARBON	H
	R162	QRD167J-823	82K 1/6W CARBON	A
	R162	QRD167J-823	82K 1/6W CARBON	B
	R162	QRD167J-104	100K 1/6W CARBON	C
	R162	QRD167J-104	100K 1/6W CARBON	D
	R162	QRD167J-104	100K 1/6W CARBON	E
	R162	QRD167J-683	68K 1/6W CARBON	F
	R162	QRD167J-104	100K 1/6W CARBON	G
	R162	QRD167J-104	100K 1/6W CARBON	H
	R163	QRD167J-472	4.7K 1/6W CARBON	A
	R163	QRD167J-472	4.7K 1/6W CARBON	B
	R163	QRD167J-332	3.3K 1/6W CARBON	C
	R163	QRD167J-332	3.3K 1/6W CARBON	D
	R163	QRD167J-332	3.3K 1/6W CARBON	E
	R163	QRD167J-332	3.3K 1/6W CARBON	F
	R163	QRD167J-332	3.3K 1/6W CARBON	G
	R163	QRD167J-332	3.3K 1/6W CARBON	H
	R164	QRD167J-472	4.7K 1/6W CARBON	A
	R164	QRD167J-472	4.7K 1/6W CARBON	B
	R164	QRD167J-332	3.3K 1/6W CARBON	C
	R164	QRD167J-332	3.3K 1/6W CARBON	D
	R164	QRD167J-332	3.3K 1/6W CARBON	E
	R164	QRD167J-332	3.3K 1/6W CARBON	F
	R164	QRD167J-332	3.3K 1/6W CARBON	G
	R164	QRD167J-332	3.3K 1/6W CARBON	H
	R165	QRD167J-184	180K 1/6W CARBON	A
	R165	QRD167J-184	180K 1/6W CARBON	B
	R165	QRD167J-274	270K 1/6W CARBON	C
	R165	QRD167J-274	270K 1/6W CARBON	D
	R165	QRD167J-274	270K 1/6W CARBON	E
	R165	QRD167J-274	270K 1/6W CARBON	F
	R165	QRD167J-274	270K 1/6W CARBON	G
	R165	QRD167J-274	270K 1/6W CARBON	H
	R166	QRD167J-184	180K 1/6W CARBON	A
	R166	QRD167J-184	180K 1/6W CARBON	B
	R166	QRD167J-274	270K 1/6W CARBON	C
	R166	QRD167J-274	270K 1/6W CARBON	D
	R166	QRD167J-274	270K 1/6W CARBON	E
	R166	QRD167J-274	270K 1/6W CARBON	F
	R166	QRD167J-274	270K 1/6W CARBON	G
	R166	QRD167J-274	270K 1/6W CARBON	H
	R167	QRD167J-393	39K 1/6W CARBON	A
	R167	QRD167J-393	39K 1/6W CARBON	B
	R167	QRD167J-473	47K 1/6W CARBON	C
	R167	QRD167J-473	47K 1/6W CARBON	D
	R167	QRD167J-473	47K 1/6W CARBON	E
	R167	QRD167J-473	47K 1/6W CARBON	F
	R167	QRD167J-473	47K 1/6W CARBON	G
	R167	QRD167J-473	47K 1/6W CARBON	H
	R168	QRD167J-103	10K 1/6W CARBON	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R169	QRD167J-103	10K 1/6W CARBON	
	R171	QRD167J-682	6.8K 1/6W CARBON	
	R172	QRD167J-682	6.8K 1/6W CARBON	
	R180	QRD167J-103	10K 1/6W CARBON	
	R181	QRD167J-222	2.2K 1/6W CARBON	
	R182	QRD167J-181	180 1/6W CARBON	
	R190	QRD167J-103	10K 1/6W CARBON	
	R191	QRD167J-562	5.6K 1/6W CARBON	
	R193	QRD167J-103	10K 1/6W CARBON	
	R194	QRD167J-103	10K 1/6W CARBON	
	R195	QRD167J-473	47K 1/6W CARBON	
	R196	QRD167J-103	10K 1/6W CARBON	A
	R196	QRD167J-103	10K 1/6W CARBON	B
	R196	QRD167J-103	10K 1/6W CARBON	C
	R196	QRD167J-222	2.2K 1/6W CARBON	D
	R196	QRD167J-222	2.2K 1/6W CARBON	E
	R196	QRD167J-222	2.2K 1/6W CARBON	F
	R196	QRD167J-222	2.2K 1/6W CARBON	G
	R196	QRD167J-222	2.2K 1/6W CARBON	H
	R197	QRD167J-222	2.2K 1/6W CARBON	
	R198	QRD167J-332	3.3K 1/6W CARBON	A
	R198	QRD167J-332	3.3K 1/6W CARBON	B
	R198	QRD167J-332	3.3K 1/6W CARBON	C
	R198	QRD167J-822	8.2K 1/6W CARBON	D
	R198	QRD167J-822	8.2K 1/6W CARBON	E
	R198	QRD167J-822	8.2K 1/6W CARBON	F
	R198	QRD167J-822	8.2K 1/6W CARBON	G
	R198	QRD167J-822	8.2K 1/6W CARBON	H
	R199	QRD167J-472	4.7K 1/6W CARBON	
	R210	QRD167J-470	47 1/6W CARBON	
	R228	QRD167J-222	2.2K 1/6W CARBON	
⚠	R229	QRD14CJ-220S	22 1/4W UNF.CARBON	
	R231	QRD167J-103	10K 1/6W CARBON	
	R232	QRD167J-153	15K 1/6W CARBON	
	R233	QRD167J-470	47 1/6W CARBON	

⚠ : SAFETY PARTS

Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10200-003(S)	PRINTED BOARD	
	L101	EQL4007-1ROT	INDUCTOR	
	L106	EQL3001-102K	INDUCTOR	
	L111	EQL2103-393	INDUCTOR	
	L112	EQL2103-393	INDUCTOR	
	L120	EQL4007-1ROT	INDUCTOR	
	T101	EQR1111-014	AM RF COIL	
	T102	EQR1111-005	AM RF COIL	D
	T102	EQR1111-005	AM RF COIL	E
	T102	EQR1111-005	AM RF COIL	F
	T102	EQR1111-005	AM RF COIL	G
	T102	EQR1111-005	AM RF COIL	H
	T103	EQR1207-017	MW OSC COIL	
	T104	EQR1307-010	LW OSC COIL	D
	T104	EQR1307-010	LW OSC COIL	E
	T104	EQR1307-010	LW OSC COIL	F
	T104	EQR1307-010	LW OSC COIL	G
	T104	EQR1307-010	LW OSC COIL	H
	T105	EQT2140-017	I.F. TRANSFORMER	
	T107	ECB1560-010	CERAMIC FILTER	
	AT101	EMB41YV-401K	ANTENNA TERMINAL	A
	AT101	EMB41YV-401K	ANTENNA TERMINAL	B
	AT101	EMB41YV-401K	ANTENNA TERMINAL	C
	AT101	EMB41YV-301K	ANTENNA TERMINAL	D
	AT101	EMB41YV-301K	ANTENNA TERMINAL	E

⚠ : SAFETY PARTS

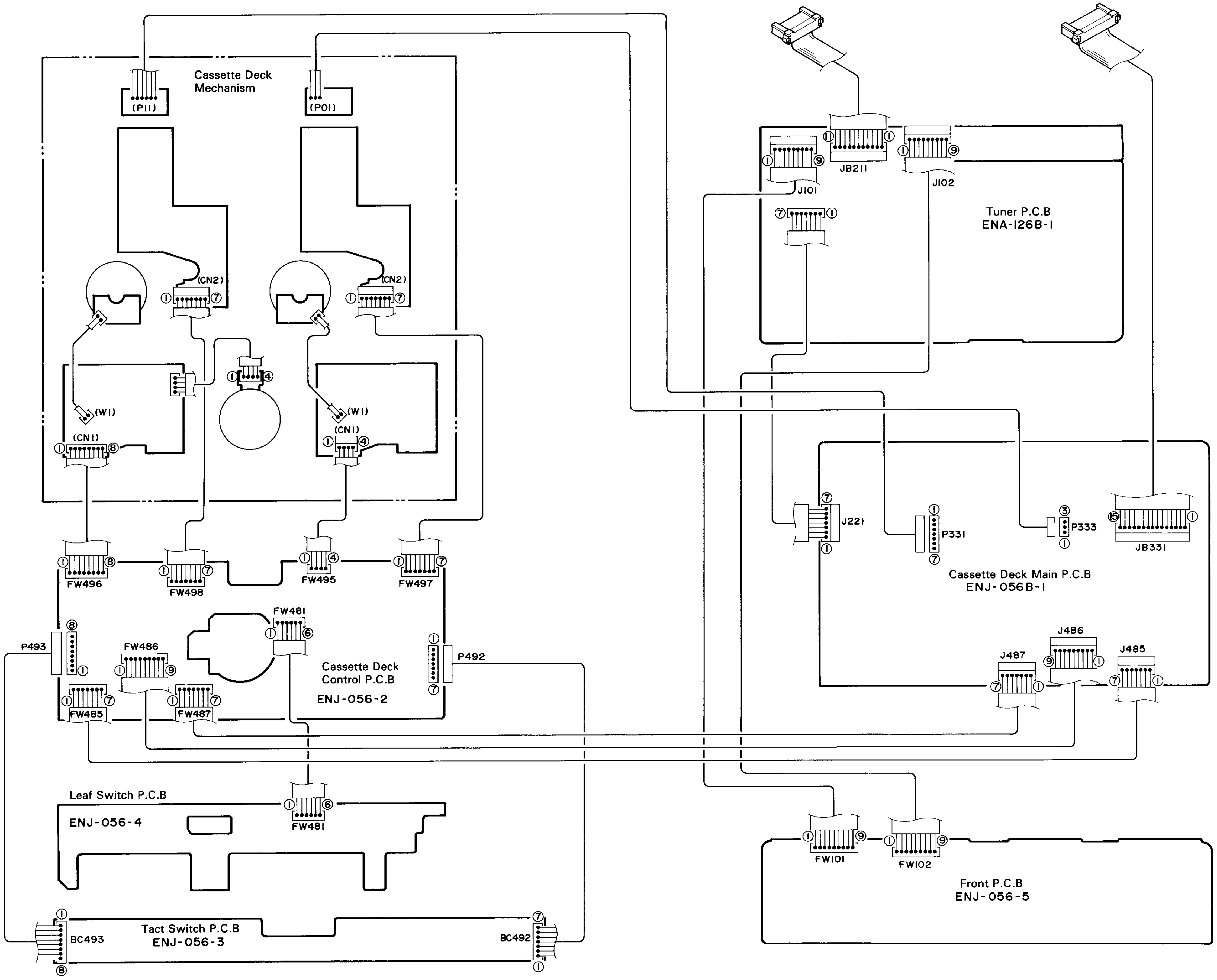
Others

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	AT101	EMB41YV-301K	ANTENNA TERMINAL	F
	AT101	EMB41YV-301K	ANTENNA TERMINAL	G
	AT101	EMB41YV-301K	ANTENNA TERMINAL	H
	CF101	ECB2123-006R	CERAMIC FILTER	A
	CF101	ECB2123-006R	CERAMIC FILTER	B
	CF101	ECB2123-006R	CERAMIC FILTER	C
	CF101	ECB2118-007R	CERAMIC FILTER	D
	CF101	ECB2118-007R	CERAMIC FILTER	E
	CF101	ECB2118-007R	CERAMIC FILTER	F
	CF101	ECB2118-007R	CERAMIC FILTER	G
	CF101	ECB2118-007R	CERAMIC FILTER	H
	CF102	ECB2123-006R	CERAMIC FILTER	A
	CF102	ECB2123-006R	CERAMIC FILTER	B
	CF102	ECB2123-006R	CERAMIC FILTER	C
	CF102	ECB2118-007R	CERAMIC FILTER	D
	CF102	ECB2118-007R	CERAMIC FILTER	E
	CF102	ECB2118-007R	CERAMIC FILTER	F
	CF102	ECB2118-007R	CERAMIC FILTER	G
	CF102	ECB2118-007R	CERAMIC FILTER	H
	EP101	E70859-001	EARTH PLATE	
	EP103	E70859-001	EARTH PLATE	
	EP110	E70225-001	EARTH PLATE	
	FE101	EAF2203-001	FRONT END	A
	FE101	EAF2203-001	FRONT END	B
	FE101	EAF2203-001	FRONT END	C
	FE101	EAF2203-001	FRONT END	D
	FE101	EAF2203-003	FRONT END	E
	FE101	EAF2203-001	FRONT END	F
	FE101	EAF2203-003	FRONT END	G
	FE101	EAF2302-001	FRONT END	H
	FW221	EWR34B-16LST	FLAT WIRE(4PIN)	A
	FW221	EWR37B-16LST	FLAT WIRE(7PIN)	B
	FW221	EWR34B-16LST	FLAT WIRE(4PIN)	C
	FW221	EWR34B-16LST	FLAT WIRE(4PIN)	D
	FW221	EWR34B-16LST	FLAT WIRE(4PIN)	E
	FW221	EWR34B-16LST	FLAT WIRE(4PIN)	F
	FW221	EWR34B-16LST	FLAT WIRE(4PIN)	G
	FW221	EWR34B-16LST	FLAT WIRE(4PIN)	H
	JB211	EMV7141-011	CONNECTOR(10PIN)	
	JT001	EMV7122-004	CONNECTOR(4PIN)	
	JT002	EMV7122-005	CONNECTOR(5PIN)	
	JT101	EMV7122-004	CONNECTOR(4PIN)	
	JT102	EMV7122-103	CONNECTOR(3PIN)	A
	JT102	EMV7122-005	CONNECTOR(5PIN)	B
	JT102	EMV7122-103	CONNECTOR(3PIN)	C
	JT102	EMV7122-103	CONNECTOR(3PIN)	D
	JT102	EMV7122-103	CONNECTOR(3PIN)	E
	JT102	EMV7122-103	CONNECTOR(3PIN)	F
	JT102	EMV7122-103	CONNECTOR(3PIN)	G
	JT102	EMV7122-103	CONNECTOR(3PIN)	H
	LP102	EQF0102-001	LOW PASS FILTER	E
	LP102	EQF0102-001	LOW PASS FILTER	G
	TC105	ENZ1003-006	TRIMMER	
	TC106	ENZ1003-006	TRIMMER	D
	TC106	ENZ1003-006	TRIMMER	E
	TC106	ENZ1003-006	TRIMMER	F
	TC106	ENZ1003-006	TRIMMER	G
	TC106	ENZ1003-006	TRIMMER	H
	XT102	ECX0007-200KWJ1	RESONATOR	
	XT103	ECX0000-456KR	RESONATOR	

⚠ : SAFETY PARTS

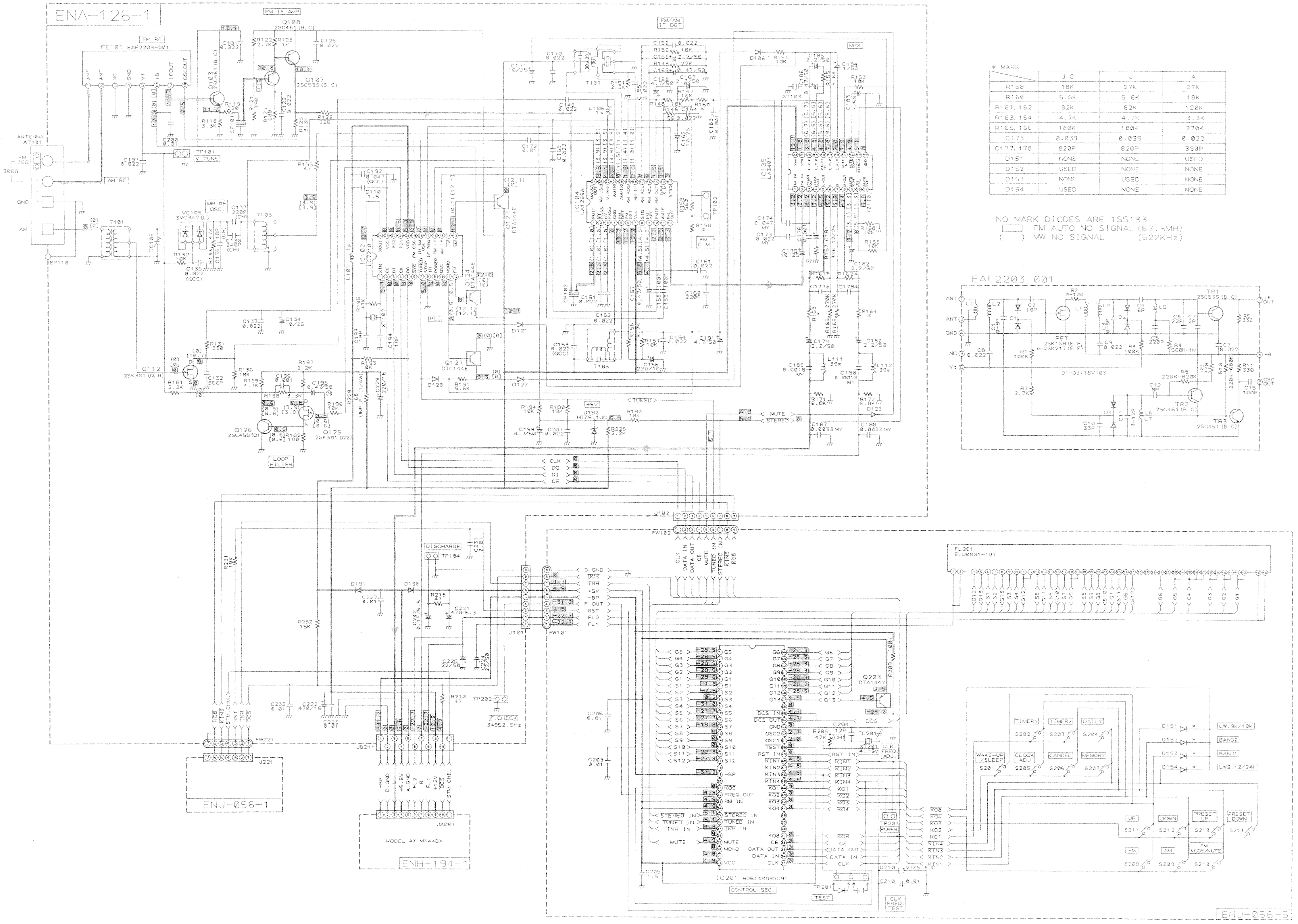
—MEMO—

Connection Diagram


Cassette Deck Mechanism
(P11)
(P01)
(CN2)
(CN2)
(W1)
(W1)
(CN1)
(CN1)
FW496
FW498
FW495
FW497
FW481
FW486
P493
P492
Cassette Deck Control P.C.B
ENJ-056-2
FW485
FW487
Leaf Switch P.C.B
ENJ-056-4
FW481
Tact Switch P.C.B
ENJ-056-3
BC493
BC492
JB211
J101
J102
Tuner P.C.B
ENA-126B-1
J221
P331
P333
JB331
Cassette Deck Main P.C.B
ENJ-056B-1
J487
J486
J485
FW101
FW102
Front P.C.B
ENJ-056-5

Schematic Diagrams

1. Tuner Section


ENA-126-1
FM RF
FE101 EAF2203-001
FM IF AMP
FM/AM IF DET
MPX
AM RF
MW RF OSC
V.TUNE
PLL
LOOP FILTER
DISCHARGE
F.CHECK
EAF2203-001
FL201 ELU0001-101
IC201 HD614089SC91
CONTROL SEC.
ENJ-056-1
MODEL AX-MX44BX
ENH-194-1
ENJ-056-5
TIMER1
TIMER2
DAILY
WAKE-UP /SLEEP
CLOCK ADJ
CANCEL
MEMORY
UP
DOWN
PRESET UP
PRESET DOWN
FM
AM
FM MODE/MUTE
TEST
CLK FREQ TEST

＊ MARK

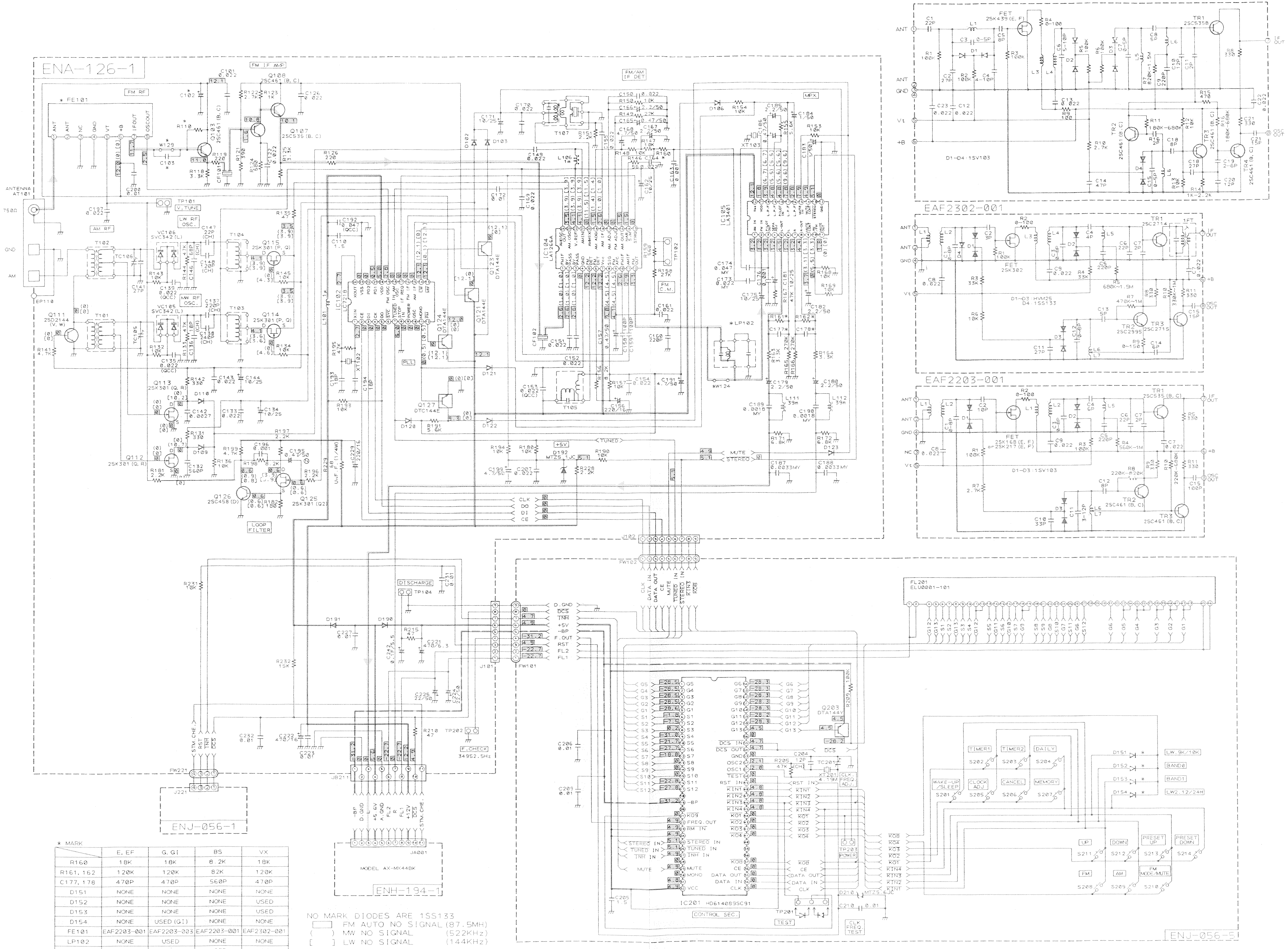
	J, C	U	A
R158	18K	27K	27K
R160	5.6K	5.6K	18K
R161, 162	82K	82K	120K
R163, 164	4.7K	4.7K	3.3K
R165, 166	180K	180K	270K
C173	0.039	0.039	0.022
C177, 178	820P	820P	390P
D151	NONE	NONE	USED
D152	USED	NONE	NONE
D153	NONE	USED	NONE
D154	USED	NONE	NONE

NO MARK DIODES ARE 1SS133
▭ FM AUTO NO SIGNAL (87.5MH)
( ) MW NO SIGNAL (522KHz)

Notes:

1. ▭ Shows DC voltage to the chassis with no signal input.
2. —— indicates +B power supply.
3. ---- indicates −B power supply.
4. ▬ indicates signal path.
5. When replacing the parts in the shaded are (▒) and those marked with ⚠, be sure to use the designated parts to ensure safety.
6. This is the standard circuit diagram. The design and contents are subject to change without notice.

2. Tuner Section (with LW)


EAF2203-003
EAF2302-001
EAF2203-001
ENA-126-1
FM RF
FM IF AMP
FM/AM IF DET
MPX
AM RF
LW RF OSC.
MW RF OSC.
LOOP FILTER
PLL
DISCHARGE
F.CHECK 34952.5Hz
* FE101
ANTENNA AT101
FM 75Ω
GND
AM
IC104 LA1266A
IC105 LA3401
IC201 HD614089SC91
CONTROL SEC.
FL201 ELU0001-101
ENJ-056-1
ENJ-056-5
ENH-194-1
MODEL AX-MX44BK
JA001
J101
FW101
J102
FW102
J221
FW221
JB211
CLK
DO
DI
CE
MUTE
STEREO
TUNED
D.GND
DCS
TNR
+5V
-BP
F.OUT
RST
FL2
FL1
TIMER1
TIMER2
DAILY
WAKE-UP /SLEEP
CLOCK ADJ
CANCEL
MEMORY
UP
DOWN
PRESET UP
PRESET DOWN
FM
AM
FM MODE/MUTE
LW.9K/10K
BAND0
BAND1
LW2.12/24H
TP201 TEST
TP203 POWER
CLK. FREQ ADJ
CLK FREQ TEST

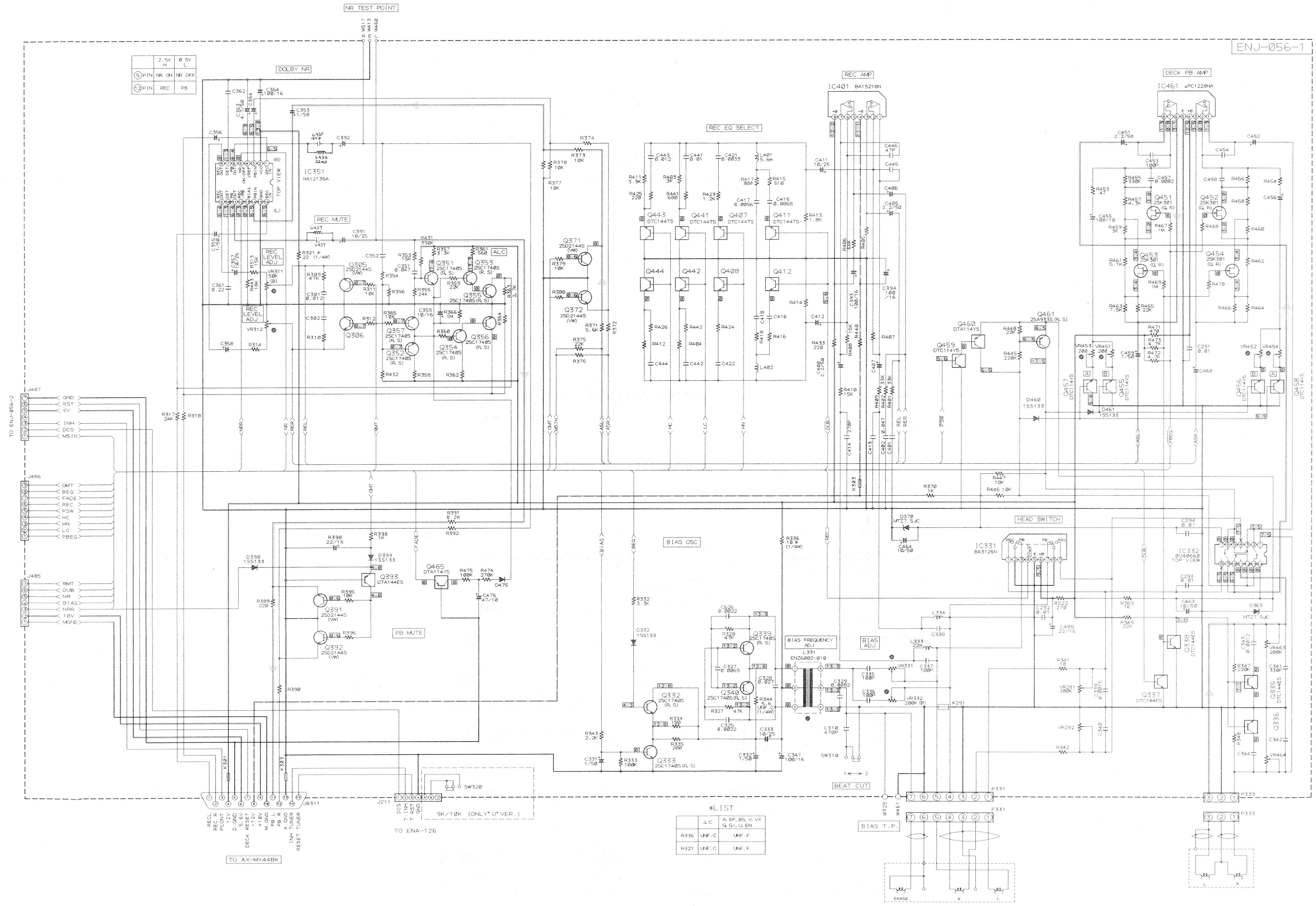
* MARK

	E, EF	G, GI	BS	VX
R160	18K	18K	8.2K	18K
R161, 162	120K	120K	82K	120K
C177, 178	470P	470P	560P	470P
D151	NONE	NONE	NONE	NONE
D152	NONE	NONE	NONE	USED
D153	NONE	NONE	NONE	USED
D154	NONE	USED (GI)	NONE	NONE
FE101	EAF2203-001	EAF2203-003	EAF2203-001	EAF2302-001
LP102	NONE	USED	NONE	NONE
W124	USED	NONE	USED	USED
C102	NONE	22/50	NONE	NONE
W129	USED	USED	USED	NONE
C103	NONE	NONE	NONE	0.01
R110	NONE	NONE	NONE	47K

NO MARK DIODES ARE 1SS133

▭	FM AUTO NO SIGNAL	(87.5MH)
( )	MW NO SIGNAL	(522KHz)
[ ]	LW NO SIGNAL	(144KHz)

3. Cassette Deck Section

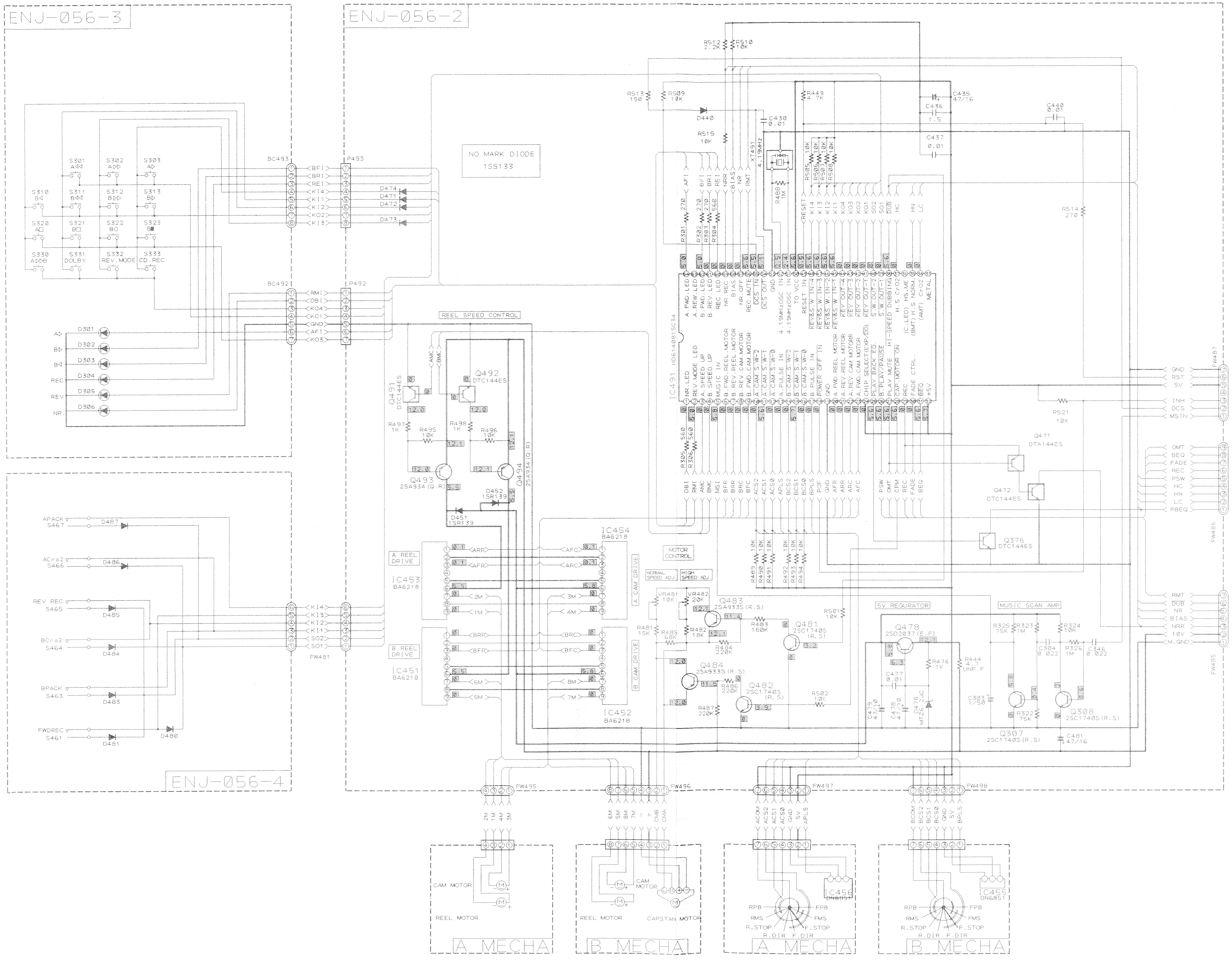

NR TEST POINT
W517
W413
W460
ENJ-056-1
DOLBY NR
C362
C364 100/16
C353 1/50
C356
C392
L436 22mH
IC351 HA12136A
TOP VIEW
REC MUTE
L437
C391 10/25
REC LEVEL ADJ
VR311 50K (B)
VR312
ALC
Q305 2SD2144S (VW)
Q306
Q351 2SC1740S (R, S)
Q353 2SC1740S (R, S)
Q355 2SC1740S (R, S)
Q357 2SC1740S (R, S)
Q352 2SC1740S (R, S)
Q354 2SC1740S (R, S)
Q356 2SC1740S (R, S)
Q371 2SD2144S (VW)
Q372 2SD2144S (VW)
REC EQ SELECT
Q443 DTC144TS
Q441 DTC144TS
Q407 DTC144TS
Q411 DTC144TS
Q444
Q442
Q408
Q412
L401 5.6m
L402
REC AMP
IC401 BA15218N
DECK PB AMP
IC461 µPC1228HA
Q451 2SK301 (Q, R)
Q452 2SK301 (Q, R)
Q453 2SK301 (Q, R)
Q454 2SK301 (Q, R)
Q460 DTA114YS
Q461 2SA933S (R, S)
Q459 DTC114YS
Q457 DTC114YS
Q455 DTC114YS
Q456 DTC114YS
Q458 DTC114YS
D460 1SS133
D461 1SS133
J487
TO ENJ-056-2
GND
RST
5V
INH
DCS
MSIN
J486
OMT
BEQ
FADE
REC
PSW
HC
HN
LC
PBEQ
J485
RMT
DUB
NR
BIAS
NRR
10V
MGND
D398 1SS133
D399 1SS133
Q393 DTA144ES
Q391 2SD2144S (VW)
Q392 2SD2144S (VW)
Q465 DTA114YS
D475
PB MUTE
D370 MTZ7.5JC
BIAS OSC
D332 1SS133
Q332 2SC1740S (R, S)
Q333 2SC1740S (R, S)
Q339 2SC1740S (R, S)
Q340 2SC1740S (R, S)
BIAS FREQUENCY ADJ
L331 ENZ6002-010
BIAS ADJ
VR331
VR332 200K (B)
SW310
BEAT CUT
HEAD SWITCH
IC331 BA3126N
IC332 BU4066B TOP VIEW
D469 MTZ7.5JC
Q338 DTC144ES
Q337 DTC144ES
Q335 DTC144ES
Q336
VR463 200K
VR464
P331
P332
P333
JB311
REC L
REC R
PCONT
+12V
D GND
5.6V
DECK RESET
-12V
+10V
M GND
PB L
PB R
A GND
INH TUNER
RESET TUNER
TO AX-MX44BK
J211
DCS
INH
RST
GND
SW320
9K/10K (ONLY "U" VER.)
TO ENA-126
W725
W461
BIAS T.P.
ERASE
R
L

	2.5V H	0.5V L
⑤PIN	NR ON	NR OFF
⑫PIN	REC	PB

*LIST

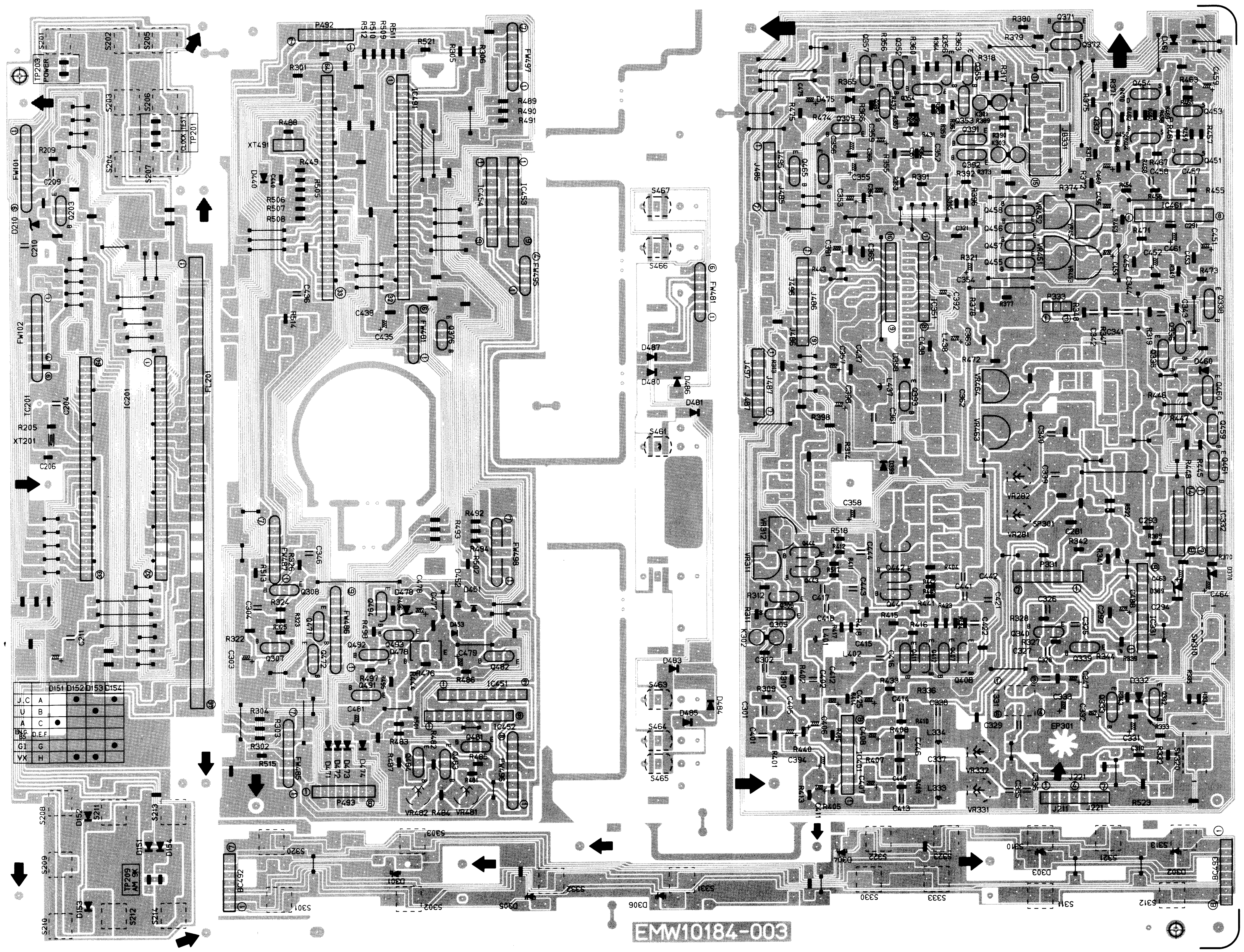
	J, C	A, EF, BS, V, VX G, Gi, U, EN
R336	UNF.C	UNF.F
R321	UNF.C	UNF.F

4. Cassette Deck Control Section


ENJ-056-3
ENJ-056-2
ENJ-056-4
NO MARK DIODE 1SS133
REEL SPEED CONTROL
IC491 HD614081SC34
IC454 BA6218
IC453 BA6218
IC451 BA6218
IC452 BA6218
A REEL DRIVE
B REEL DRIVE
A CAM DRIVE
B CAM DRIVE
MOTOR CONTROL
NORMAL SPEED ADJ.
HIGH SPEED ADJ.
5V REGURATOR
MUSIC SCAN AMP
Q491 DTC144ES
Q492 DTC144ES
Q493 2SA934 (Q.R)
Q494 2SA934 (Q.R)
Q483 2SA933S (R.S)
Q484 2SA933S (R.S)
Q481 2SC1740S (R.S)
Q482 2SC1740S (R.S)
Q478 2SD2037 (E.F)
Q307 2SC1740S (R.S)
Q308 2SC1740S (R.S)
Q471 DTA144ES
Q472 DTC144ES
Q376 DTC144ES
XT491 4.19MHz
BC493
BC492
P493
P492
FW481
FW485
FW486
FW487
FW495
FW496
FW497
FW498
TO-ENJ-056
S301 A◁◁
S302 A▷▷
S303 A▷
S310 B◁
S311 B◁◁
S312 B▷▷
S313 B▷
S320 A□
S321 B□
S322 B0
S323 B■
S330 A▷▷B
S331 DOLBY
S332 REV.MODE
S333 CD.REC
D301 A▷
D302 B▷
D303 B◁
D304 REC
D305 REV
D306 NR
APACK S467
ACro2 S466
REV REC S465
BCro2 S464
BPACK S463
FWDREC S461
CAM MOTOR
REEL MOTOR
CAPSTAN MOTOR
IC456 DN6851
IC455 DN6851
RPB
RMS
R.STOP
R.DIR
F.DIR
F.STOP
FMS
FPB
A MECHA
B MECHA
A MECHA
B MECHA

Printed Circuit Board

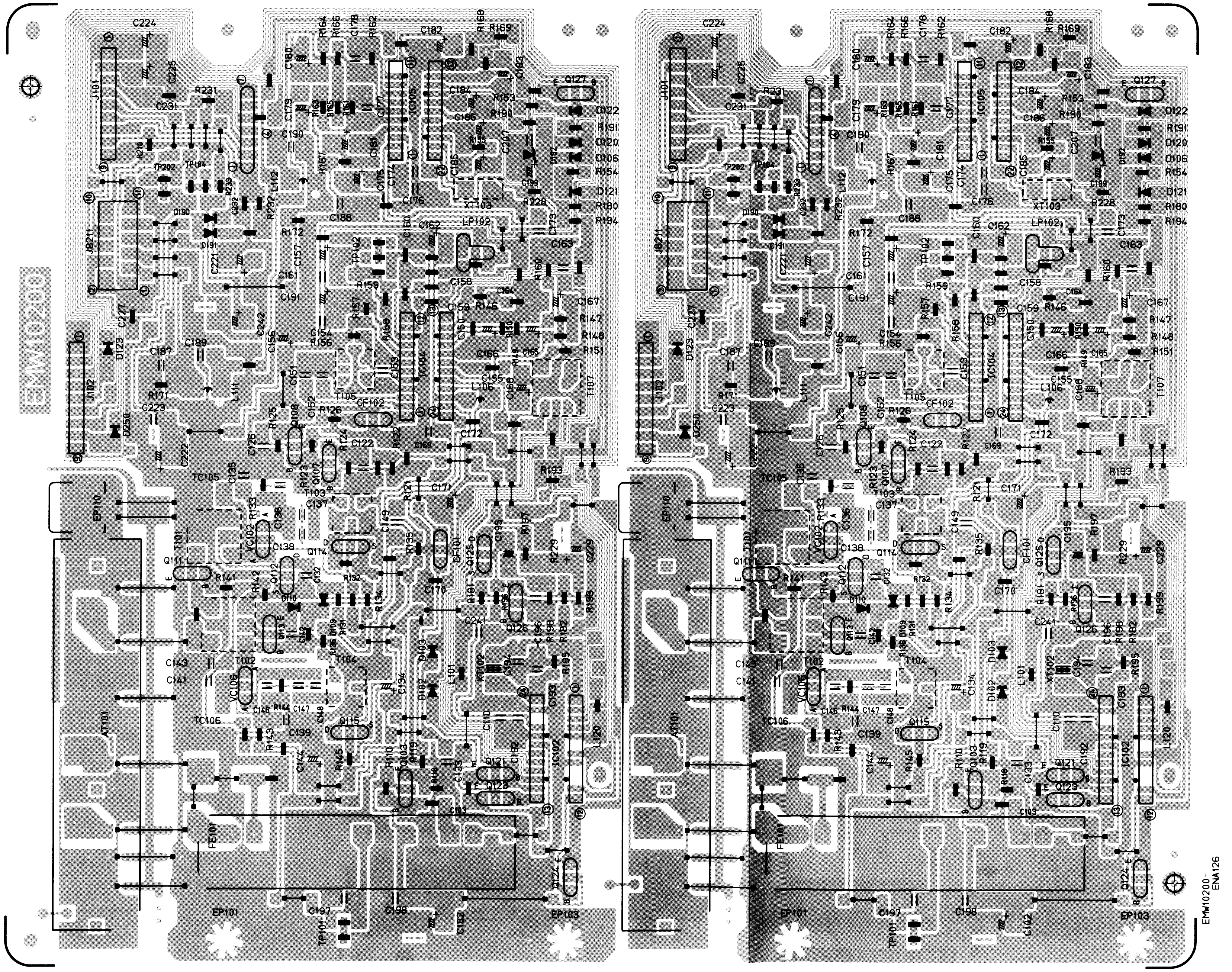
■ **Cassette Deck P.C. B (ENJ-056)**



		D151	D152	D153	D154
J.C	A		●		●
U	B			●	
A	C	●			
ENG. BS	D.E.F				
GI	G				●
VX	H		●	●	

EMW10184-003
TP203 POWER
TP201 CLOCK TEST
TP209 AM 9K
IC201
FL201
FW101
FW102
XT201
IC491
IC453
IC454
IC451
IC452
XT491
P492
P483
FW497
FW495
FW498
FW496
FW486
FW485
FW481
S461
S463
S464
S465
S466
S467
IC461
IC332
IC331
IC301
IC401
VR331
VR332
VR281
VR282
VR451
VR452
VR461
VR462
VR481
VR482
J211
J221
J486
J487
J496
J497
EP301
BC791
BC792
S301
S302
S303
S305
S310
S311
S312
S313
S320
S322
S323
S330
S331
S333
S208
S209
S210
S211
S212
S213
S214
D151
D152
D153
D154
D302
D303
D305
D306

■ Tuner P.C.B (ENA-126)


EMW10200
EMW10200-ENA126
J101
J102
J8211
C224
C225
C231
R231
R210
TP202
TP104
R239
R292
C292
D190
D191
C221
C161
C191
C227
C242
D123
C187
C189
C156
R171
L111
D250
C223
C222
C126
R125
Q108
C152
C151
R126
CF102
R124
C122
R123
Q107
TC105
C135
T103
C137
R133
C136
VC102
T101
Q111
C138
Q114
R141
R142
Q112
C132
R132
D110
Q113
C142
D109
R131
R136
T104
C143
C141
T102
VC106
C146
R144
C147
C148
TC106
R143
C139
Q115
C144
R145
R110
Q103
R119
R118
C133
Q121
Q123
C103
AT101
FE101
EP101
EP110
C197
C198
TP101
C102
EP103
Q124
IC102
L120
C193
C192
C110
XT102
C194
R195
Q126
C196
R198
R182
R199
C241
R181
R196
C170
CF101
Q125
C195
R197
R229
C229
R193
C171
R121
R122
C169
C172
C149
R135
D103
D102
L101
C134
IC104
C153
C150
T105
R157
R158
R159
C154
R156
C157
R172
C188
TP102
C160
C162
LP102
C158
C164
R146
C159
R150
C166
R149
C165
C155
L106
C168
T107
R151
R148
R147
C167
R160
C163
C173
R194
R180
D121
R154
D106
D120
R191
D122
Q127
C183
R169
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C184
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C186
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C201
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R226
C185
XT103
C176
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C177
C181
C179
C190
R167
R163
R165
R161
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C180
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R166
C178
R162

PARTS LIST

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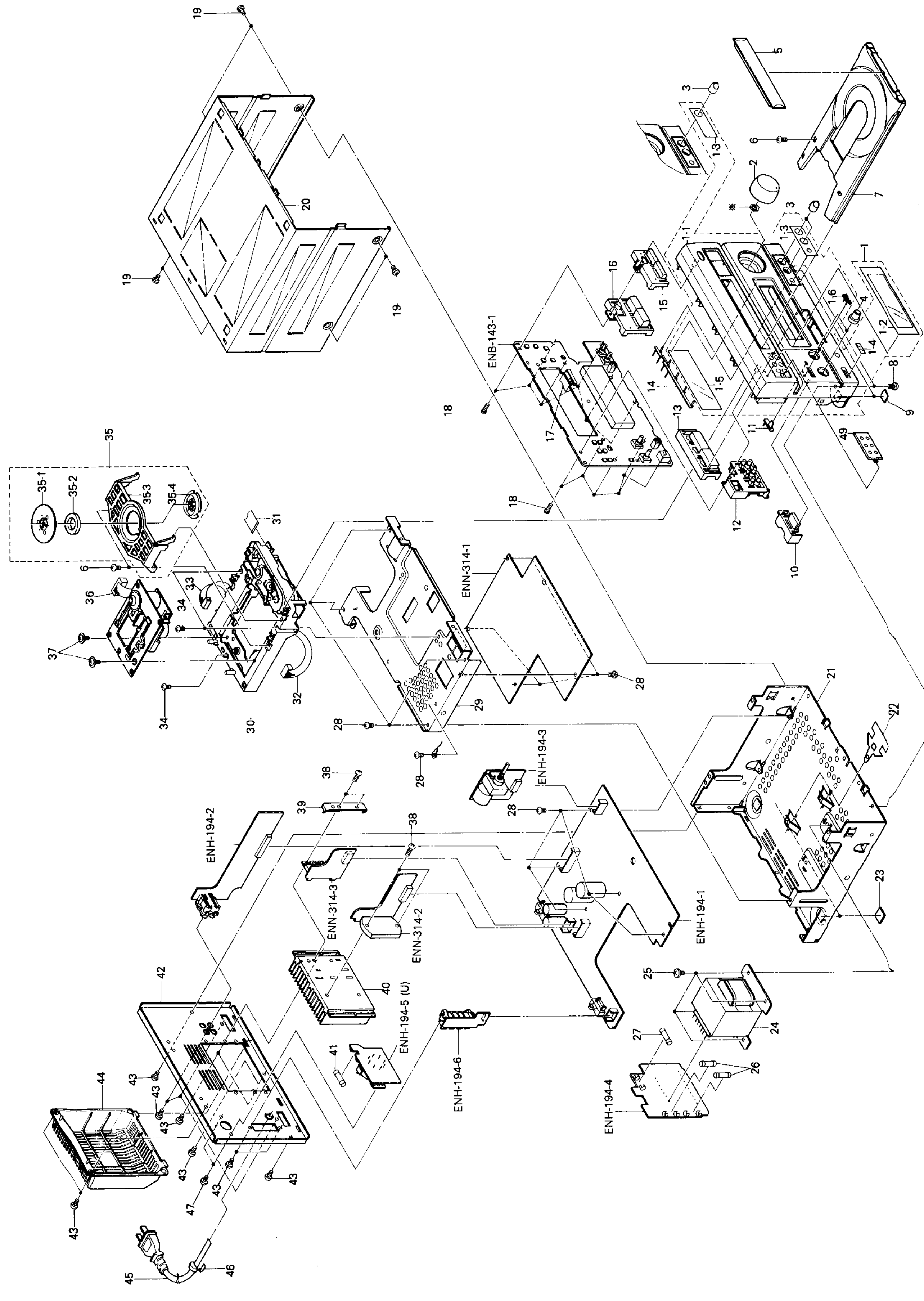
General Exploded View and Parts List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ENH-194-2
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ENN-314-3
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ENH-194-1
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ENH-194-4
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※ mark indicates attached part.

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-AXMX44BKJ (S	Front Panel Ass'y	1		J
		EFP-AXMX44BKE (S	Front Panel Ass'y	1		Except J , U
		EFP-AXMX44BKU (S	Front Panel Ass'y	1		U
	1-1	E102537-002SM	Front Panel	1		
	1-2	E307915-001SM	Window Screen	1		Except J
		E307915-002SM	Window Screen	1		J
	1-3	E406939-001SM	Balance Plate	1		Except U
	1-4	E406939-002SM	Balance Plate	1		U
		E406943-002SM	Remote Plate	1		
	1-5	E75130-004SM	FL Screen	1		J
	1-6	E406971-001	JVC Mark	1		
	2	E306549-001SS	Volume Knob	1		
	3	E406691-221SM	Knob	1	BALANCE	Except U
		E406691-221SM	Knob	2	BALANCE , MIC	U
	4	E306920-221SM	Knob	2	TONE	
	5	E307906-001SM	Fitting	1		
	6	SBSF3008M	Screw	3		
	7	E12289-222SS	Tray	1		
	8	SBSG3008M	Screw	2		
	9	E406855-006SM	Spacer	2	Front Foot	
	10	E307917-001SM	Push Button	1	POWER	
	11	E406938-001	Indicator	1		
	12	E307898-002SS	Push Button	1		
	13	E307904-001SS	Push Button	1	SOURCE	
	14	E307910-001	Indicator	1		
	15	E307902-001SS	Push Button	1		
	16	E307900-001SS	Push Button	1	PLAY	
	17	EWR121G-15TT	Flat Cable	1	FC511	
	18	SDSF2610Z	Screw	12		
	19	SDSG3006M	Screw	6	for Metal Cover	
	20	E207537-002	Metal Cover	1		Except J
		E207537-005	Metal Cover	1		J
	21	E102532-001SM	AMP Chassis Base	2		
	22	E407010-003SM	Protect Cover	2		
	23	E406855-007SM	Spacer	2	Rear Foot	
⚠	24	ETP1070-24JAJ	Power Transformer	1	T002	J , C
⚠		ETP1070-24FAJ	Power Transformer	1	T002	U
⚠		ETP1070-24EAJ	Power Transformer	1	T002	Except J , C , U , BS
⚠		ETP1070-24EAJBS	Power Transformer	1	T002	BS
	25	E65389-004	Special Screw	4		
⚠	26	QMF51U1-1R6S	Fuse	2	F003 , F004	J , C
⚠		QMF51E2-1R25J1	Fuse	2	F003 , F004	Except J , C , BS
⚠		QMF51E2-1R2J1BS	Fuse	2	F003 , F004	BS
⚠	27	QMF51U1-2R0S	Fuse	1	F001	J , C
⚠		QMF51E2-2R0J1	Fuse	1	F001	U
⚠		QMF51E2-1R0J1	Fuse	1	F001	Excpet J , C , U , BS
⚠		QMF51E2-1R0J1BS	Fuse	1	F001	BS
	28	SBSG3008CC	Screw	13		Except J , C
		SBSG3008CC	Screw	14		J , C
	29	E102531-001SM	CD Chassis Base	1		
	30	————	CD Mechanism Unit Ass'y	1	See page 2-5	
	31	EWR1DE-23TT	Flat Cable	1	13Pin	
	32	EWS256-B102	Socket Wire Ass'y	1	6Pin	
	33	EWS254-B103	Socket Wire Ass'y	1	4Pin	
	34	SBST3006Z	Screw	3		
	35	E306837-003	Clamper Base Ass'y	1		
	35-1	E306836-003	Yoke	1		
	35-2	E74897-002	Magnet	1		
	35-3	E26756-001	Clamper Base	1		
	35-4	E306835-001	Clamper	1		

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	36	EWS26A-B414	Socket Wire Ass'y	1	10Pin	
	37	E75871-003	Special Screw	2		
	38	SBSG3014CC	Screw	4		
	39	E406969-001SM	Leaf Spring	1		
	40	E307908-001SM	Heat Sink	1		
⚠	41	QMF51E2-1R0J1	Fuse	1	F002	U
	42	E207354-004SM	Rear Panel	1		J
		E207354-005SM	Rear Panel	1		C
		E207354-006SM	Rear Panel	1		U
		E207354-007SM	Rear Panel	1		A , BS
		E207354-008SM	Rear Panel	1		EN , EF , G , GI
		E207354-010SM	Rear Panel	1		VX
	43	E73273-006	Special Screw	12		
	44	E207356-001SM	Rear Cover	1		Except J
		E207356-002SM	Rear Cover	1		J
⚠	45	QMP1D00-200H	Power Cord	1		J , C
⚠		QMP2560-244	Power Cord	1		A
⚠		QMP3900-200	Power Cord	1		EN , EF , G , GI , VX
⚠		QMP7520-200	Power Cord	1		U
⚠		QMP9017-008BS	Power Cord	1		BS
⚠	46	QHS3876-162	Cord Stopper	1		Except BS
⚠		QHS3876-162BS	Cord Stopper	1		BS
	47	SBST3006M	Screw	2		U
	48	E73967-002	Spacer	1		
	49	E307610-221SM	Ornament	1		
	–	E61029-009	Number Label	1		Except J
	–	E70891-001	Class 1 Label	1		Except J , C
	–	E406507-001	Mecha Caution Label	1		Except J
	–	E65507-001	Caution Label	1		C
	–	E67199-001	Fuse Caution Label	1		J
	–	QZL1001-001	UL Label	1		J
	–	E45858-002	CSA Label	1		C
	–	E70027-001	Aprroval Label	1		EN
	–	QZL1031-101	SEV Label	1		EF
	–	E407091-053	FTZ Label	1		G

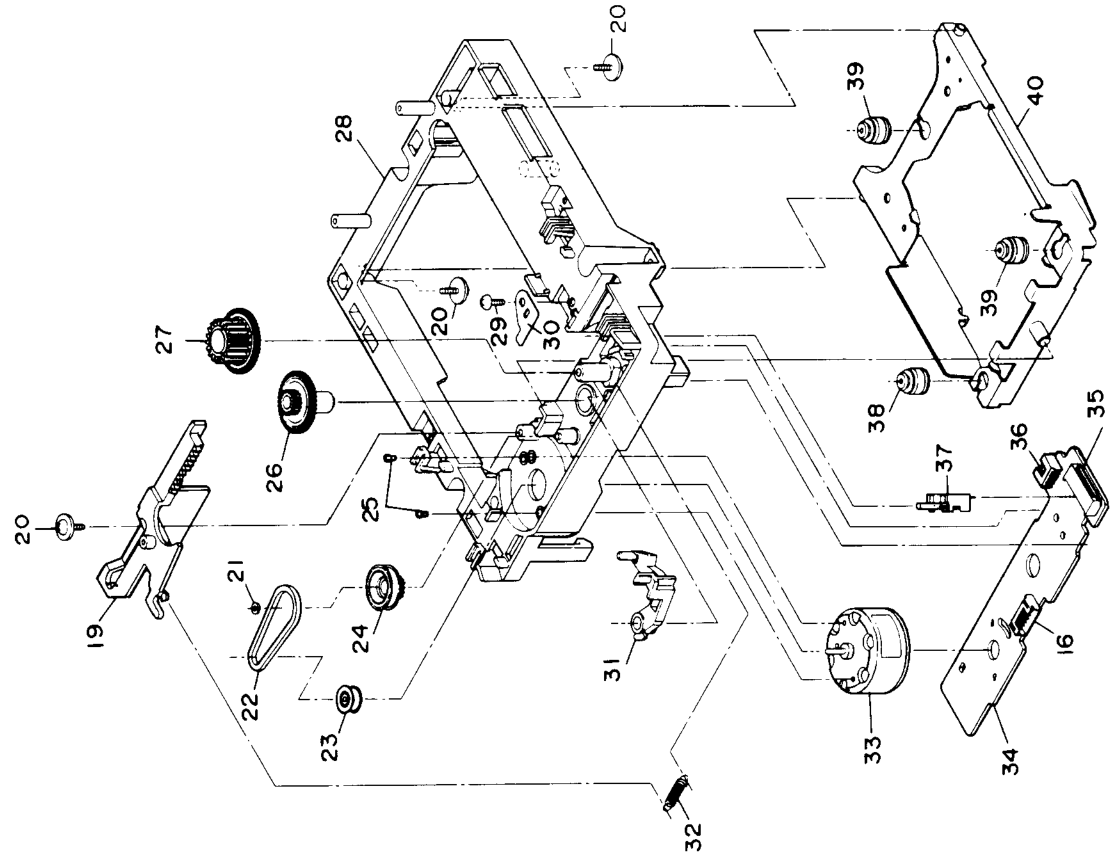
The Marks for Designated Areas

⚠ Safety Parts

J……………………the U.S.A.
C……………………Canada
A……………………Australia
EN…………………Scandinavia
EF…………………Continental Europe
G……………………Germany
GI……………………Italy
BS…………………the U.K.
VX…………………Poland , Soviet Union and Rumania
U……………………Universal Type

No mark indicates all areas.

CD Mechanism Ass'y and Parts List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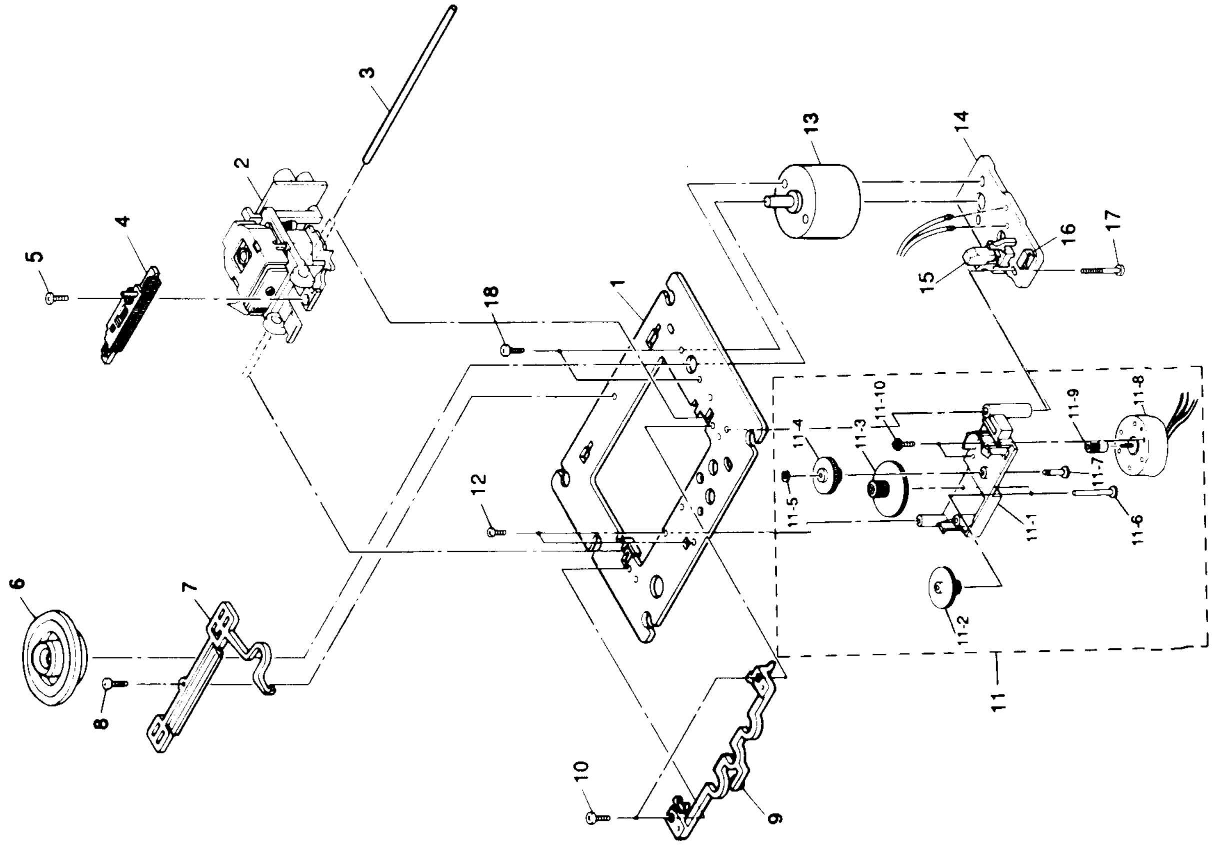
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■ Parts List

Item	Part Number	Part Name	Q'ty	Description	Areas
1	E26487-003	Mechanism Base	1		
2	OPTIMA-5S	Pick up Ass'y	1		
3	E74930-003	Shaft	1		
4	E306282-001	Rack Ass'y	1		
5	SPSH2050M	Screw	1		
6	E406064-002	Turn Table Ass'y	1		
7	E306275-003	Support	1		
8	SDST2005Z	Screw	1		
9	E306277-001	Holder	1		
10	SDST2004Z	Screw	2		
11	SE10351-11	Gear Ass'y	1		
11-1	E306276-001	Gear Base	1		
11-2	E75444-001	Gear	1		
11-3	E75443-001	Gear	1		
11-4	E75445-001	Gear	1		
11-5	WDM163550	Slit Washer	1		
11-6	E75494-003	Shaft	2		
11-7	E75494-002	Shaft	1		
11-8	HKN-3A6RDNV	Feed Motor	1		
11-9	E75493-001	Pinion Gear	1		
11-10	LPSH1735Z	Screw	2		
12	E72713-001	Special Screw	2		
13	E74539-001B	Spindle Motor	1		
14	E12114-005 (S)	Circuit Board	1		
15	ESB1100-005	Leaf Switch	1	S001	
16	EMV5109-006B	6P Plug Ass'y	2	P011	
17	E75832-001	Special Screw	1		
18	SDSP2003N	Screw	2		
19	E306834-001	Cam	1		
20	E65923-003	Special Screw	3		
21	E72024-001	Speed Nut	1		
22	E75950-002	Belt	1		
23	E75984-001	Motor Pulley	1		
24	E75985-001	Gear (1)	1		
25	SPSK2640Z	Screw	2		
26	E75986-002	Gear (2)	1		
27	E75987-001	Gear (3)	1		
28	E12288-002	Loading Base	1		
29	SBSF3008Z	Screw	1		
30	E75988-001	Plate	1		
31	E306833-001	Lever	1		
32	E75989-001	Spring	1		
33	MMN-6F1LB8Q	Loading Motor	1		
34	EMW10060-002 (S)	Circuit Board	1		
35	EMV7123-013R	Connector	1	13Pin	
36	EMV5109-004B	Plug Ass'y	1	4Pin	
37	ESS1200-002	Switch	1		
38	E75609-002	Insulator	1		
39	E75609-001	Insulator	2		
40	E307087-001	Elevator Base Ass'y	1		

Printed Circuit Board Ass'y and Parts List

■ENH-194☐ System Control & Input Selector PC Board Ass'y (Excpet the U.S.A. & Canada)

Note : ENH-194☐ varies according to the areas employed. See note (1) when placing an order.

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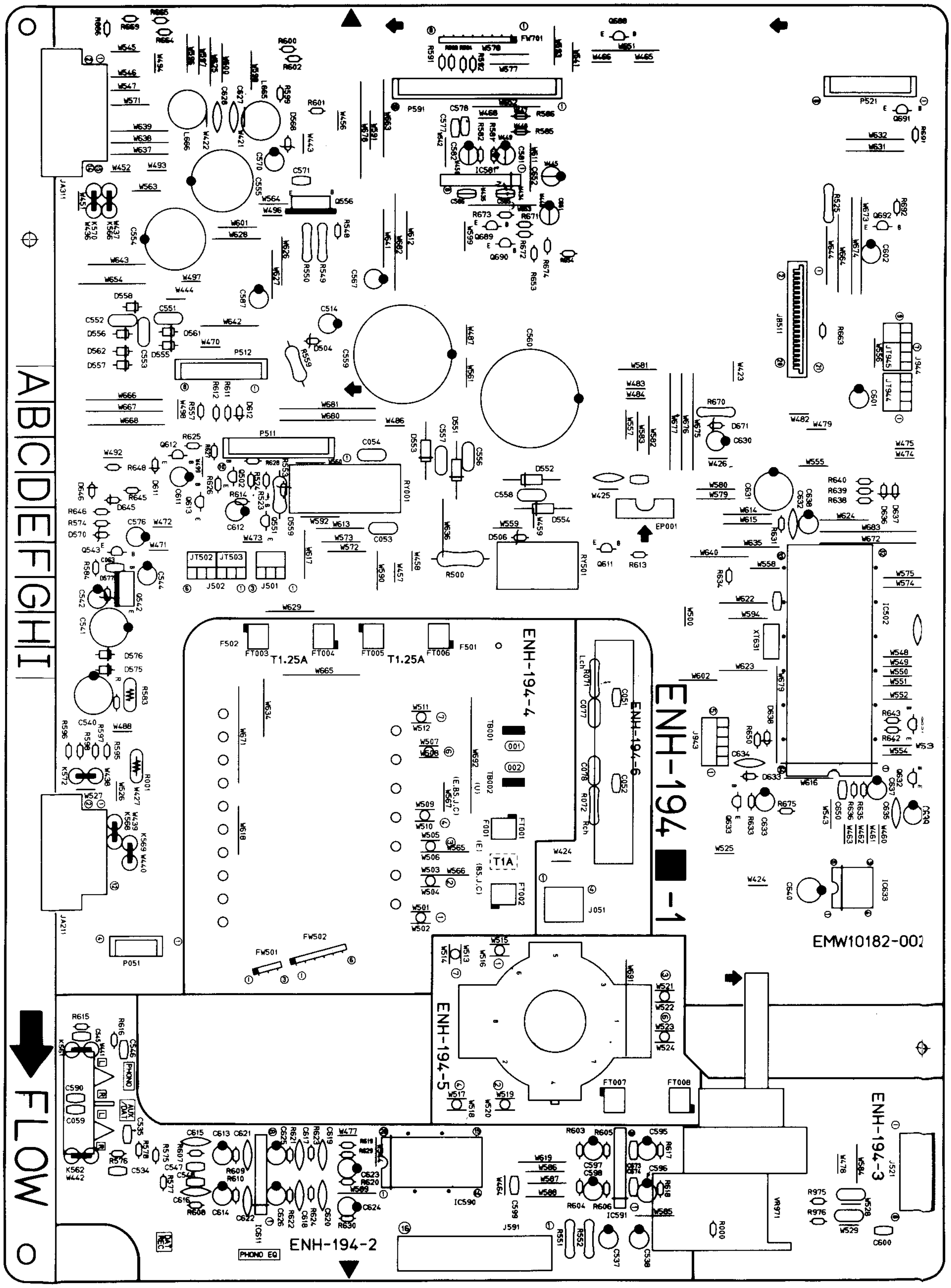
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ENH-194-5
ENH-194-6
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AUX/DAT
TAPE REC
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J502
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■ENH-194□ System Control & Input Selector PC Board Ass'y (Only for the U.S.A. & Canada)

Note : ENH-194□ varies according to the areas employed. See note (1) when placing an order.

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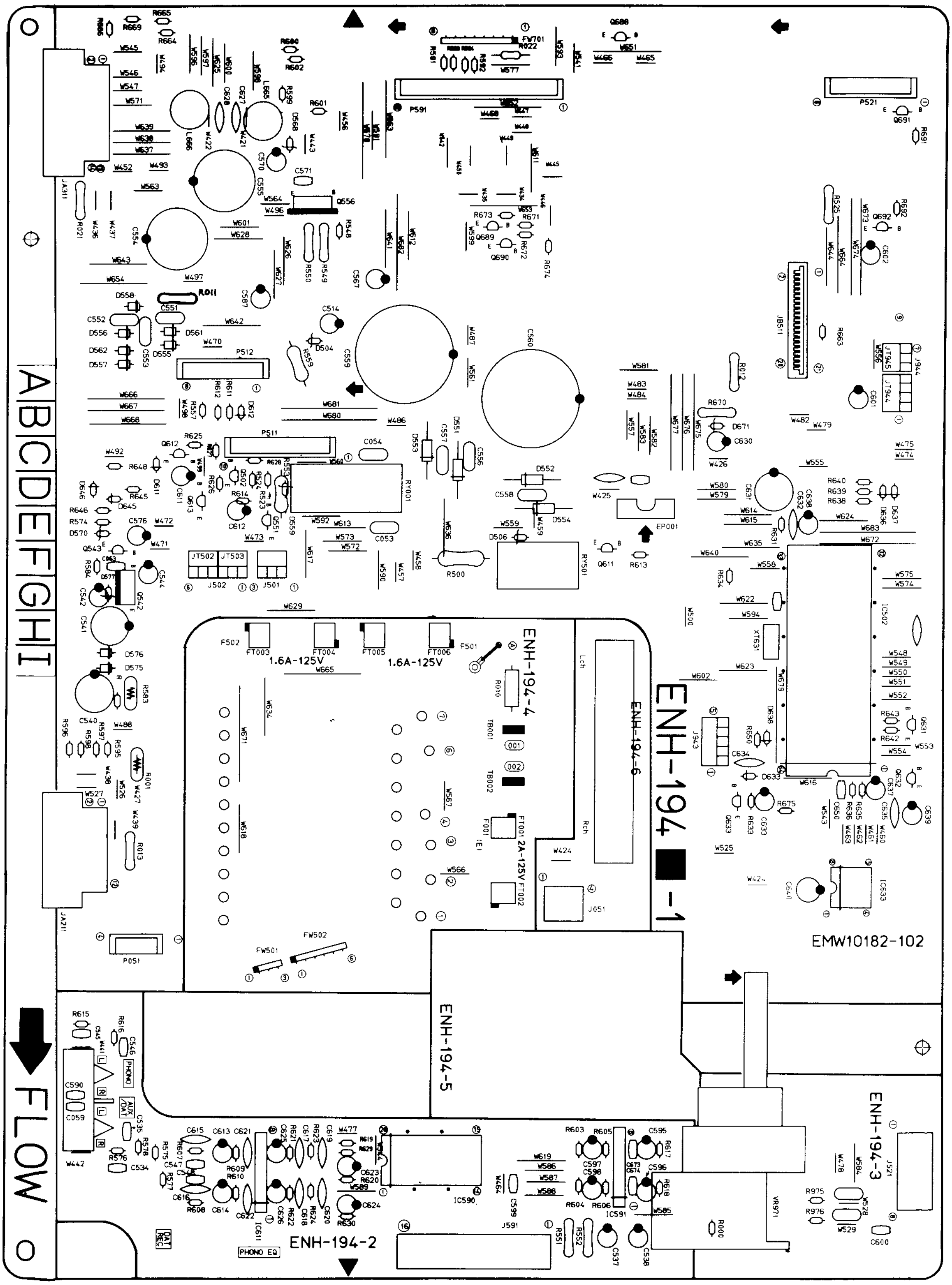

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ENH-194-5
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1.6A-125V
2A-125V
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PHONO
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DAT REC
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P591
P511
P512
P051
JA311
JA211
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J051
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IC591
IC611
IC633
VR971
EP001
FT001
FT002
FT003
FT004
FT005
FT006
F501
F502
FW501
FW502

Note (1)

PC Board Ass'y	Designated Areas
ENH-194 A	the U.S.A.
ENH-194 B	Canada
ENH-194 C	Universal Type
ENH-194 D	Australia
ENH-194 E	Scandinavia Continental Europe Poland , Soviet Union and Rumania
ENH-194 F BS	the U.K.
ENH-194 G	Germany , Italy

Transistors

BLOCK NO. 0 1

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q502	2SC1740S(R,S)	SILICON ROHM	
	Q542	2SB1357(E,F)	SILICON ROHM	
	Q543	2SC945A(P,Q)	SILICON NEC	
	Q551	2SC1740S(R,S)	SILICON ROHM	
	Q556	2SD1944(J,K)	SILICON ROHM	
	Q611	2SC1740S(R,S)	SILICON ROHM	
	Q612	2SA933S(R,S)	SILICON ROHM	
	Q613	2SC1740S(R,S)	SILICON ROHM	
	Q631	DTC114YS	SILICON ROHM	
	Q632	DTC114YS	SILICON ROHM	
	Q633	DTC114WS	SILICON S001	
	Q688	DTA144ES	SILICON ROHM	
	Q689	2SD2144S(VW)	SILICON ROHM	
	Q690	2SD2144S(VW)	SILICON ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC502	UPD75104CW-269	I.C. NEC	
	IC581	BA15218N	I.C. ROHM	C
	IC590	TC9163N	I.C. TOSHIBA	
	IC591	BA15218N	I.C. ROHM	
	IC611	VC4580LD	I.C. DAINICHI	
	IC633	LB1639-CV	I.C. SANYO	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D504	MTZ12JC	ZENER ROHM	
	D506	MTZ24JC	ZENER ROHM	
	D551	ERB12-02RKL1	SILICON KYOUDOU	
	D552	ERB12-02RKL1	SILICON KYOUDOU	
	D553	ERB12-02RKL1	SILICON KYOUDOU	
	D554	ERB12-02RKL1	SILICON KYOUDOU	
⚠	D555	ERA15-02L19	SILICON KYOUDOU	
⚠	D556	ERA15-02L19	SILICON KYOUDOU	
⚠	D557	ERA15-02L19	SILICON KYOUDOU	
⚠	D558	ERA15-02L19	SILICON KYOUDOU	
	D559	MTZ12JC	ZENER ROHM	
⚠	D561	ERA15-02L19	SILICON KYOUDOU	
⚠	D562	ERA15-02L19	SILICON KYOUDOU	
	D568	MTZ5.6JC	ZENER ROHM	
	D570	MTZ10JC	ZENER ROHM	
	D575	1SR139-200	SILICON ROHM	
	D576	1SR139-200	SILICON ROHM	
	D577	MTZ30JC	ZENER ROHM	
	D611	1SS133	SILICON ROHM	
	D612	1SS133	SILICON ROHM	
	D633	1SS133	SILICON ROHM	
	D636	1SS133	SILICON ROHM	
	D637	1SS133	SILICON ROHM	
	D638	1SS133	SILICON ROHM	
	D645	1SS133	SILICON ROHM	
	D646	1SS133	SILICON ROHM	
	D671	MTZ5.1JB	ZENER ROHM	

⚠ : SAFETY PARTS

Capacitors

BLOCK NO. 0 1

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C051	QCBB1HK-331	330PF 50V CERAMIC	G
	C052	QCBB1HK-331	330PF 50V CERAMIC	G
	C053	QFLB1HJ-104	0.1MF 50V MYLAR	
	C054	QFLB1HJ-104	0.1MF 50V MYLAR	
	C059	QCVB1CM-103	0.01MF 16V CERAMIC	
	C063	QCGB1HK-102	1000PF 50V CERAMIC	
	C077	QFLB1HJ-103	0.01MF 50V MYLAR	G
	C078	QFLB1HJ-103	0.01MF 50V MYLAR	G
	C514	QETB1HM-226	22MF 50V ELECTRO	
	C534	QCBB1HK-221	220PF 50V CERAMIC	G
	C535	QCBB1HK-221	220PF 50V CERAMIC	G
	C537	QETB1CM-226	22MF 16V ELECTRO	
	C538	QETB1CM-226	22MF 16V ELECTRO	
	C540	QETB1JM-227	220MF 63V ELECTRO	
	C541	QETB1JM-227	220MF 63V ELECTRO	
	C542	QETB1HM-226	22MF 50V ELECTRO	
	C544	QETB1HM-226	22MF 50V ELECTRO	
	C545	QCBB1HK-331	330PF 50V CERAMIC	E
	C545	QCBB1HK-331	330PF 50V CERAMIC	FBS
	C545	QCBB1HK-331	330PF 50V CERAMIC	G
	C546	QCBB1HK-331	330PF 50V CERAMIC	E
	C546	QCBB1HK-331	330PF 50V CERAMIC	FBS
	C546	QCBB1HK-331	330PF 50V CERAMIC	G
	C547	QCVB1CM-103	0.01MF 16V CERAMIC	G
	C548	QCVB1CM-103	0.01MF 16V CERAMIC	G
	C551	QFLB2AJ-103	0.01MF 100V MYLAR	A
	C551	QFLB2AJ-103	0.01MF 100V MYLAR	B
	C551	QFLB2AJ-103	0.01MF 100V MYLAR	C
	C551	QFV82AJ-104	0.1MF 100V T.FILM	D
	C551	QFV82AJ-104	0.1MF 100V T.FILM	E
	C551	QFV82AJ-104	0.1MF 100V T.FILM	FBS
	C551	QFV82AJ-104	0.1MF 100V T.FILM	G
	C552	QFLB2AJ-103	0.01MF 100V MYLAR	A
	C552	QFLB2AJ-103	0.01MF 100V MYLAR	B
	C552	QFLB2AJ-103	0.01MF 100V MYLAR	C
	C552	QFV82AJ-104	0.1MF 100V T.FILM	D
	C552	QFV82AJ-104	0.1MF 100V T.FILM	E
	C552	QFV82AJ-104	0.1MF 100V T.FILM	FBS
	C552	QFV82AJ-104	0.1MF 100V T.FILM	G
	C553	QFLB2AJ-103	0.01MF 100V MYLAR	A
	C553	QFLB2AJ-103	0.01MF 100V MYLAR	B
	C553	QFLB2AJ-103	0.01MF 100V MYLAR	C
	C553	QFV82AJ-104	0.1MF 100V T.FILM	D
	C553	QFV82AJ-104	0.1MF 100V T.FILM	E
	C553	QFV82AJ-104	0.1MF 100V T.FILM	FBS
	C553	QFV82AJ-104	0.1MF 100V T.FILM	G
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	C555	QETB1EM-338	3300MF 25V ELECTRO	
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	C556	QFLB2AJ-103	0.01MF 100V MYLAR	B
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	C570	QETB1AM-227	220MF 10V ELECTRO	
	C571	QCVB1CM-103	0.01MF 16V CERAMIC	
	C576	QETB1HM-475	4.7MF 50V ELECTRO	
	C577	QCHB1EZ-223	0.022MF 25V CERAMIC	C
	C578	QCHB1EZ-223	0.022MF 25V CERAMIC	C
	C581	QEK51EM-475G	4.7MF 25V ELECTRO	C
	C582	QEK51EM-475G	4.7MF 25V ELECTRO	C
	C585	QCBB1HK-101	100PF 50V CERAMIC	C
	C586	QCBB1HK-101	100PF 50V CERAMIC	C
	C587	QETB1CM-476	47MF 16V ELECTRO	
	C590	QCVB1CM-103	0.01MF 16V CERAMIC	
	C595	EEZ5009-106	10MF ELECTRO	
	C596	EEZ5009-106	10MF ELECTRO	
	C597	QETB1HM-475	4.7MF 50V ELECTRO	
	C598	QETB1HM-475	4.7MF 50V ELECTRO	
	C599	QCBB1HK-561	560PF 50V CERAMIC	
	C600	QCVB1CM-103	0.01MF 16V CERAMIC	
	C601	QETB1EM-106	10MF 25V ELECTRO	

⚠ : SAFETY PARTS

Capacitors

BLOCK NO. 0 1

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C602	QETB1EM-106	10MF 25V ELECTRO	
	C611	QETB1CM-226	22MF 16V ELECTRO	
	C612	QETB1CM-476	47MF 16V ELECTRO	
	C613	QETB1HM-225	2.2MF 50V ELECTRO	
	C614	QETB1HM-225	2.2MF 50V ELECTRO	
	C615	QCS21HJ-101	100PF 50V CERAMIC	A
	C615	QCS21HJ-101	100PF 50V CERAMIC	B
	C615	QCS21HJ-101	100PF 50V CERAMIC	C
	C615	QCS21HJ-221	220PF 50V CERAMIC	D
	C615	QCS21HJ-221	220PF 50V CERAMIC	E
	C615	QCS21HJ-221	220PF 50V CERAMIC	FBS
	C615	QCS21HJ-221	220PF 50V CERAMIC	G
	C616	QCS21HJ-101	100PF 50V CERAMIC	A
	C616	QCS21HJ-101	100PF 50V CERAMIC	B
	C616	QCS21HJ-101	100PF 50V CERAMIC	C
	C616	QCS21HJ-221	220PF 50V CERAMIC	D
	C616	QCS21HJ-221	220PF 50V CERAMIC	E
	C616	QCS21HJ-221	220PF 50V CERAMIC	FBS
	C616	QCS21HJ-221	220PF 50V CERAMIC	G
	C617	QCY21HK-182	1800PF 50V CERAMIC	
	C618	QCY21HK-182	1800PF 50V CERAMIC	
	C619	QCY21HK-682	6800PF 50V CERAMIC	
	C620	QCY21HK-682	6800PF 50V CERAMIC	
	C621	QCS21HJ-101	100PF 50V CERAMIC	
	C622	QCS21HJ-101	100PF 50V CERAMIC	
	C623	QETB1HM-225	2.2MF 50V ELECTRO	
	C624	QETB1HM-225	2.2MF 50V ELECTRO	
	C625	QETB1EM-226	22MF 25V ELECTRO	
	C626	QETB1EM-226	22MF 25V ELECTRO	
	C630	QETB1CM-476	47MF 16V ELECTRO	
	C631	QETB0JM-477	470MF 6.3V ELECTRO	
	C632	QCF21HP-103	0.01MF 50V CERAMIC	
	C633	QETB1EM-106	10MF 25V ELECTRO	
	C634	QCF21HP-103	0.01MF 50V CERAMIC	
	C635	QCF21HP-103	0.01MF 50V CERAMIC	
	C637	QETB1CM-476	47MF 16V ELECTRO	
	C638	QETB1CM-476	47MF 16V ELECTRO	
	C639	QETB1HM-225	2.2MF 50V ELECTRO	
	C640	QETB1AM-476	47MF 10V ELECTRO	
	C650	QCBB1HK-471	470PF 50V CERAMIC	
	C651	QEK51EM-475G	4.7MF 25V ELECTRO	C
	C652	QEK51EM-475G	4.7MF 25V ELECTRO	C
	C673	QCBB1HK-101	100PF 50V CERAMIC	
	C674	QCBB1HK-101	100PF 50V CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R	QRD167J-273	27K 1/6W CARBON	
⚠	R001	QRD14CJ-2R2S	2.2 1/4W UNF.CARBON	
⚠	R010	QRC128K-275EM	2.7M 1/2W COMPOSI	A
⚠	R010	QRC128K-275EM	2.7M 1/2W COMPOSI	B
⚠	R011	QRD14CJ-5R6S	5.6 1/4W UNF.CARBON	A
⚠	R011	QRD14CJ-2R7S	2.7 1/4W UNF.CARBON	B
⚠	R012	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	A
⚠	R012	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	B
⚠	R013	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	A
⚠	R013	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	B
⚠	R021	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	A
⚠	R021	QRD14CJ-6R8S	6.8 1/4W UNF.CARBON	B
⚠	R022	QRD145J-6R8S	6.8 1/4W UNF.CARBON	A
⚠	R022	QRD145J-6R8S	6.8 1/4W UNF.CARBON	B
⚠	R071	QRD14CJ-100S	10 1/4W UNF.CARBON	G
⚠	R072	QRD14CJ-100S	10 1/4W UNF.CARBON	G
⚠	R500	QRG022J-331AM	330 2W O.M.FILM	A
⚠	R500	QRG022J-331AM	330 2W O.M.FILM	B
⚠	R500	QRG022J-331AM	330 2W O.M.FILM	C
⚠	R500	QRG022J-391AM	390 2W O.M.FILM	D
⚠	R500	QRG022J-391AM	390 2W O.M.FILM	E
⚠	R500	QRG022J-391AM	390 2W O.M.FILM	FBS
⚠	R500	QRG022J-391AM	390 2W O.M.FILM	G
	R523	QRD167J-823	82K 1/6W CARBON	
	R524	QRD167J-104	100K 1/6W CARBON	
⚠	R525	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
	R548	QRD167J-512	5.1K 1/6W CARBON	
⚠	R549	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	A
⚠	R549	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	B
⚠	R549	QRZ0077-4R7	4.7 1/4W FUSIBLE	C
⚠	R549	QRZ0077-4R7	4.7 1/4W FUSIBLE	D
⚠	R549	QRZ0077-4R7	4.7 1/4W FUSIBLE	E
⚠	R549	QRZ0077-4R7	4.7 1/4W FUSIBLE	FBS
⚠	R549	QRZ0077-4R7	4.7 1/4W FUSIBLE	G
⚠	R550	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	A
⚠	R550	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	B
⚠	R550	QRZ0077-4R7	4.7 1/4W FUSIBLE	C
⚠	R550	QRZ0077-4R7	4.7 1/4W FUSIBLE	D
⚠	R550	QRZ0077-4R7	4.7 1/4W FUSIBLE	E
⚠	R550	QRZ0077-4R7	4.7 1/4W FUSIBLE	FBS

⚠ : SAFETY PARTS

Resistors

BLOCK NO. 0 1

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R550	QRZ0077-4R7	4.7 1/4W FUSIBLE	G
⚠	R551	QRD14CJ-100S	10 1/4W UNF.CARBON	
⚠	R552	QRD14CJ-100S	10 1/4W UNF.CARBON	
⚠	R553	QRG012J-221AM	220 1W O.M.FILM	
	R557	QRD167J-222	2.2K 1/6W CARBON	
⚠	R559	QRG012J-222AM	2.2K 1W O.M.FILM	
	R574	QRD167J-104	100K 1/6W CARBON	
	R575	QRD167J-183	18K 1/6W CARBON	
	R576	QRD167J-183	18K 1/6W CARBON	
	R577	QRD167J-683	68K 1/6W CARBON	
	R578	QRD167J-683	68K 1/6W CARBON	
	R581	QRD167J-104	100K 1/6W CARBON	C
	R582	QRD167J-104	100K 1/6W CARBON	C
⚠	R583	PTH61G25AR4R7M	FUSIBLE RE	SI
	R584	QRD167J-562	5.6K 1/6W CARBON	
	R585	QRD167J-332	3.3K 1/6W CARBON	C
	R586	QRD167J-332	3.3K 1/6W CARBON	C
	R595	QRD167J-222	2.2K 1/6W CARBON	
	R596	QRD167J-222	2.2K 1/6W CARBON	
	R597	QRD167J-103	10K 1/6W CARBON	
	R598	QRD167J-103	10K 1/6W CARBON	
	R599	QRD167J-152	1.5K 1/6W CARBON	
	R600	QRD167J-152	1.5K 1/6W CARBON	
	R601	QRD167J-103	10K 1/6W CARBON	
	R602	QRD167J-103	10K 1/6W CARBON	
	R603	QRD167J-104	100K 1/6W CARBON	
	R604	QRD167J-104	100K 1/6W CARBON	
	R605	QRD167J-104	100K 1/6W CARBON	
	R606	QRD167J-104	100K 1/6W CARBON	
	R607	QRD167J-272	2.7K 1/6W CARBON	
	R608	QRD167J-272	2.7K 1/6W CARBON	
	R609	QRD167J-104	100K 1/6W CARBON	
	R610	QRD167J-104	100K 1/6W CARBON	
	R611	QRD167J-103	10K 1/6W CARBON	
	R612	QRD167J-222	2.2K 1/6W CARBON	
	R613	QRD167J-152	1.5K 1/6W CARBON	
	R614	QRD167J-104	100K 1/6W CARBON	
	R615	QRD167J-104	100K 1/6W CARBON	
	R616	QRD167J-104	100K 1/6W CARBON	
	R617	QRD167J-104	100K 1/6W CARBON	
	R618	QRD167J-104	100K 1/6W CARBON	
	R619	QRD167J-751	750 1/6W CARBON	
	R620	QRD167J-751	750 1/6W CARBON	
	R621	QRD167J-393	39K 1/6W CARBON	
	R622	QRD167J-393	39K 1/6W CARBON	
	R623	QRD167J-474	470K 1/6W CARBON	
	R624	QRD167J-474	470K 1/6W CARBON	
	R625	QRD167J-104	100K 1/6W CARBON	
	R626	QRD167J-103	10K 1/6W CARBON	
	R627	QRD167J-103	10K 1/6W CARBON	
	R628	QRD167J-473	47K 1/6W CARBON	
	R629	QRD167J-104	100K 1/6W CARBON	
	R630	QRD167J-104	100K 1/6W CARBON	
	R631	QRD167J-471	470 1/6W CARBON	
	R633	QRD167J-473	47K 1/6W CARBON	
	R634	QRD167J-103	10K 1/6W CARBON	
	R635	QRD167J-153	15K 1/6W CARBON	
	R636	QRD167J-104	100K 1/6W CARBON	
	R638	QRD167J-103	10K 1/6W CARBON	
	R639	QRD167J-103	10K 1/6W CARBON	
	R640	QRD167J-103	10K 1/6W CARBON	
	R642	QRD167J-222	2.2K 1/6W CARBON	
	R643	QRD167J-103	10K 1/6W CARBON	
	R645	QRD167J-103	10K 1/6W CARBON	
	R646	QRD167J-103	10K 1/6W CARBON	
	R648	QRD167J-223	22K 1/6W CARBON	
	R650	QRD167J-271	270 1/6W CARBON	
	R653	QRD167J-104	100K 1/6W CARBON	
	R654	QRD167J-104	100K 1/6W CARBON	
	R663	QRD167J-271	270 1/6W CARBON	
	R664	QRD167J-271	270 1/6W CARBON	
	R665	QRD167J-271	270 1/6W CARBON	
	R666	QRD167J-271	270 1/6W CARBON	
	R669	QRD167J-271	270 1/6W CARBON	
⚠	R670	QRD14CJ-331S	330 1/4W UNF.CARBON	
	R671	QRD167J-103	10K 1/6W CARBON	
	R672	QRD167J-103	10K 1/6W CARBON	
	R673	QRD167J-221	220 1/6W CARBON	
	R674	QRD167J-221	220 1/6W CARBON	
	R975	QRD167J-273	27K 1/6W CARBON	
	R976	QRD167J-273	27K 1/6W CARBON	
	VR971	QVDB91B-E15F	100K VARIABLE	

⚠ : SAFETY PARTS

Others

BLOCK NO. 01

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10182-102	CIRCUIT BOARD	A
		EMW10182-102	CIRCUIT BOARD	B
		EMW10182-002	CIRCUIT BOARD	C
		EMW10182-002	CIRCUIT BOARD	D
		EMW10182-002	CIRCUIT BOARD	E
		EMW10182-002BS	CIRCUIT BOARD	FBS
		EMW10182-002	CIRCUIT BOARD	G
	J001	EMB90YV-401A	SPEAKER TERMINAL	
	J051	EMV7125-004R	CONNECTOR(4PIN)	
	J501	EMV7122-103	CONNECTOR(3PIN)	
	J521	EMV7125-008R	CONNECTOR(8PIN)	
	J561	EMN00TV-405A	4P PIN JACK(PHONO,AUX/DAT)	
	J591	EMV7125-016R	CONNECTOR(16PIN)	
	J943	EMV7122-005	CONNECTOR(5PIN)	
	K561	ENZ8101-008	INDUCTOR	G
	K562	ENZ8101-008	INDUCTOR	G
	K566	ENZ8101-007	INDUCTOR	G
	K568	ENZ8101-007	INDUCTOR	G
	K569	ENZ8101-007	INDUCTOR	G
	K570	ENZ8101-007	INDUCTOR	G
	K572	ENZ8101-007	INDUCTOR	G
	P051	EMV5125-004	PLUG ASSY(4PIN)	
	P511	EMV5125-010	PLUG ASSY(10PIN)	
	P512	EMV5125-008	PLUG ASSY(8PIN)	
	P521	EMV5125-008	PLUG ASSY(8PIN)	
	P591	EMV5125-016	PLUG ASSY(16PIN)	
⚠	S001	QSR0085-018	VOLTAGE SELECTOR	C
	EP001	E70859-001	EARTH PLATE	
	FT001	VMZ0087-001	FUSE CLIP	
	FT002	VMZ0087-001	FUSE CLIP	
	FT003	VMZ0087-001	FUSE CLIP	
	FT004	VMZ0087-001	FUSE CLIP	
	FT005	VMZ0087-001	FUSE CLIP	
	FT006	VMZ0087-001	FUSE CLIP	
	FT007	VMZ0087-001	FUSE CLIP	C
	FT008	VMZ0087-001	FUSE CLIP	C
	FW501	EWR33B-10LST	FLAT WIRE(3PIN)	
	FW502	EWR36B-10LST	FLAT WIRE(6PIN)	
	FW701	EWR38B-16LST	FLAT WIRE(8PIN)	
	JA211	EMV7127-011	CONNECTOR(11PIN)	
	JA311	EMV7127-015	CONNECTOR(15PIN)	
	JB511	VMC0161-021	PIN CONNECTOR(21PIN)	
	JT502	EMV7122-103	CONNECTOR(3PIN)	
	JT503	EMV7122-103	CONNECTOR(3PIN)	
	JT944	EMV7122-004	CONNECTOR(4PIN)	
	JT945	EMV7122-103	CONNECTOR(3PIN)	A
	JT945	EMV7122-103	CONNECTOR(3PIN)	B
	JT945	EMV7122-005	CONNECTOR(3PIN)	C
	JT945	EMV7122-103	CONNECTOR(3PIN)	D
	JT945	EMV7122-103	CONNECTOR(3PIN)	E
	JT945	EMV7122-103	CONNECTOR(3PIN)	FBS
	JT945	EMV7122-103	CONNECTOR(3PIN)	G
	LB001	E67132-T2R0	FUSE LABEL	C
	RY001	ESK1D12-211M	RELAY(POWER SECONDARY)	
	RY501	ESK8D24-212	RELAY(SPEAKER)	
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	
	TW001	EWT011-090	TERMINAL WIRE	A
	TW001	EWT011-090	TERMINAL WIRE	B
	XT631	ECX0004-194KM	RESONATOR	

⚠ : SAFETY PARTS

Capacitors

BLOCK NO. 02

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C808	QETB1CM-476	47MF 16V ELECTRO	
	C809	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C810	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C811	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C812	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C813	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C815	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C816	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C841	QETB1AM-107	100MF 10V ELECTRO	
	C842	QFLB1HJ-104	0.1MF 50V MYLAR	
	C843	QFLB1HJ-104	0.1MF 50V MYLAR	
	C844	QETB1EM-106	10MF 25V ELECTRO	
	C845	QCBB1HK-101	100PF 50V CERAMIC	
	C846	QFV81HJ-105	1MF 50V T.FILM	
	C847	QFLB1HJ-182	1800PF 50V MYLAR	
	C848	QFV81HJ-224	0.22MF 50V T.FILM	
	C849	QETB1EM-106	10MF 25V ELECTRO	
	C850	QETB0JM-227	220MF 6.3V ELECTRO	
	C851	QFLB1HJ-104	0.1MF 50V MYLAR	
	C852	QFLB1HJ-104	0.1MF 50V MYLAR	
	C855	QFLB1HJ-473	0.047MF 50V MYLAR	
	C861	QCBB1HK-101	100PF 50V CERAMIC	
	C862	QETB1CM-107	100MF 16V ELECTRO	
	C863	QFLB1HJ-473	0.047MF 50V MYLAR	
	C864	QETB1EM-106	10MF 25V ELECTRO	
	C865	QETB1HM-105	1MF 50V ELECTRO	
	C872	QCZ0202-155	1.5MF 25V CERAMIC	
	C873	QCT30CH-120	12PF 50V CERAMIC	
	C874	QCT30CH-3R9	3.9PF 50V CERAMIC	
	C876	QCY21HK-392	3900PF 50V CERAMIC	
	C878	QCS21HJ-5R0	5PF 50V CERAMIC	
	C880	EEZ2505-107	100MF ELECTRO	
	C881	QETB0JM-477	470MF 6.3V ELECTRO	
	C883	QFLB1HJ-104	0.1MF 50V MYLAR	
	C884	QFLB1HJ-104	0.1MF 50V MYLAR	
	C885	QFLB1HJ-104	0.1MF 50V MYLAR	
	C887	QCS21HJ-221	220PF 50V CERAMIC	
	C888	QCS21HJ-221	220PF 50V CERAMIC	
	C889	QCS21HJ-221	220PF 50V CERAMIC	
	C890	QCS21HJ-221	220PF 50V CERAMIC	
	C891	QCS21HJ-221	220PF 50V CERAMIC	
	C892	QCS21HJ-221	220PF 50V CERAMIC	
	C893	QCF21HP-223	0.022MF 50V CERAMIC	
	C894	QCF21HP-223	0.022MF 50V CERAMIC	
	C895	QFLB1HJ-182	1800PF 50V MYLAR	
	C896	QFLB1HJ-182	1800PF 50V MYLAR	
	C897	QFLB1HJ-103	0.01MF 50V MYLAR	
	C898	QFLB1HJ-103	0.01MF 50V MYLAR	
	C899	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C900	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C901	QETB1HM-106	10MF 50V ELECTRO	
	C902	QETB1HM-106	10MF 50V ELECTRO	
	C903	QFLB1HJ-562	5600PF 50V MYLAR	
	C904	QFLB1HJ-562	5600PF 50V MYLAR	
	C905	QFLB1HJ-683	0.068MF 50V MYLAR	
	C906	QFLB1HJ-683	0.068MF 50V MYLAR	
	C907	QCVB1CM-103	0.01MF 16V CERAMIC	
	C915	QETB1AM-107	100MF 10V ELECTRO	
	C921	QCZ0202-155	1.5MF 25V CERAMIC	
	C922	QCZ0202-155	1.5MF 25V CERAMIC	C

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R501	QRD167J-102	1K 1/6W CARBON	
	R502	QRD167J-102	1K 1/6W CARBON	
	R503	QRD167J-104	100K 1/6W CARBON	
	R504	QRD167J-104	100K 1/6W CARBON	
	R505	ERD141J-102S	1K 1/4W CARBON	
	R506	ERD141J-102S	1K 1/4W CARBON	
	R507	QRD167J-122	1.2K 1/6W CARBON	
	R508	QRD167J-122	1.2K 1/6W CARBON	
	R509	QRD167J-104	100K 1/6W CARBON	
	R510	QRD167J-104	100K 1/6W CARBON	
	R511	QRD167J-122	1.2K 1/6W CARBON	
	R512	QRD167J-122	1.2K 1/6W CARBON	
	R513	QRD167J-122	1.2K 1/6W CARBON	
	R514	QRD167J-122	1.2K 1/6W CARBON	
⚠	R515	QRX012J-R22AM	0.22 1W M.FILM	
⚠	R516	QRX012J-R22AM	0.22 1W M.FILM	
⚠	R517	QRD14CJ-101S	100 1/4W UNF.CARBON	A
⚠	R517	QRZ0077-101	100 1/4W FUSIBLE	B
⚠	R517	QRZ0077-101	100 1/4W FUSIBLE	C
⚠	R517	QRD14CJ-101S	100 1/4W UNF.CARBON	D
⚠	R518	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R518	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R518	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R518	QRD14CJ-100S	10 1/4W UNF.CARBON	D
⚠	R519	QRD14CJ-100S	10 1/4W UNF.CARBON	A

⚠ : SAFETY PARTS

Resistors

BLOCK NO. 02

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
⚠	R519	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R519	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R519	QRD14CJ-100S	10 1/4W UNF.CARBON	D
⚠	R520	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R520	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R520	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R520	QRD14CJ-100S	10 1/4W UNF.CARBON	D
⚠	R521	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R521	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R521	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R521	QRD14CJ-100S	10 1/4W UNF.CARBON	D
⚠	R522	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R522	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R522	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R522	QRD14CJ-100S	10 1/4W UNF.CARBON	D
⚠	R530	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R530	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R530	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R530	QRD14CJ-100S	10 1/4W UNF.CARBON	D
	R533	QRD167J-122	1.2K 1/6W CARBON	
	R534	QRD167J-122	1.2K 1/6W CARBON	
	R535	QRD167J-122	1.2K 1/6W CARBON	
	R536	QRD167J-122	1.2K 1/6W CARBON	
⚠	R541	QRD14CJ-100S	10 1/4W UNF.CARBON	A
⚠	R541	QRZ0077-100	10 1/4W FUSIBLE	B
⚠	R541	QRZ0077-100	10 1/4W FUSIBLE	C
⚠	R541	QRD14CJ-100S	10 1/4W UNF.CARBON	D
	R545	QRD167J-222	2.2K 1/6W CARBON	
	R546	QRD167J-222	2.2K 1/6W CARBON	
	R551	QRD167J-104	100K 1/6W CARBON	
	R552	QRD167J-104	100K 1/6W CARBON	
	R556	QRD167J-332	3.3K 1/6W CARBON	
	R558	QRD167J-272	2.7K 1/6W CARBON	
	R559	QRD167J-272	2.7K 1/6W CARBON	
	R560	QRD167J-472	4.7K 1/6W CARBON	
	R562	QRD167J-332	3.3K 1/6W CARBON	
	R564	QRD167J-472	4.7K 1/6W CARBON	
	R565	QRD167J-472	4.7K 1/6W CARBON	
	R581	QRD167J-332	3.3K 1/6W CARBON	
⚠	R701	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
⚠	R702	QRD14CJ-4R7S	4.7 1/4W UNF.CARBON	
⚠	R703	QRZ0077-100	10 1/4W FUSIBLE	
⚠	R704	QRZ0077-100	10 1/4W FUSIBLE	
	R705	QRD167J-472	4.7K 1/6W CARBON	
	R706	QRD167J-681	680 1/6W CARBON	
	R708	QRD167J-472	4.7K 1/6W CARBON	
	R711	QRD167J-183	18K 1/6W CARBON	
	R712	QRD167J-432	4.3K 1/6W CARBON	
	R713	QRD167J-391	390 1/6W CARBON	
	R714	QRD167J-221	220 1/6W CARBON	
	R715	QRD167J-152	1.5K 1/6W CARBON	
	R716	QRD167J-561	560 1/6W CARBON	
	R717	QRD167J-561	560 1/6W CARBON	
	R718	QRD167J-562	5.6K 1/6W CARBON	
	R719	QRD167J-152	1.5K 1/6W CARBON	
	R720	QRD167J-271	270 1/6W CARBON	
	R721	QRD167J-471	470 1/6W CARBON	
	R722	QRD167J-682	6.8K 1/6W CARBON	
	R723	QRD167J-103	10K 1/6W CARBON	
	R726	QRD167J-102	1K 1/6W CARBON	
	R727	QRD167J-183	18K 1/6W CARBON	
	R731	QRD167J-104	100K 1/6W CARBON	
	R732	QRD167J-104	100K 1/6W CARBON	
	R733	QRD167J-394	390K 1/6W CARBON	
	R734	QRD167J-394	390K 1/6W CARBON	
	R735	QRD167J-121	120 1/6W CARBON	
	R736	QRD167J-182	1.8K 1/6W CARBON	
	R737	QRD167J-681	680 1/6W CARBON	
	R738	QRD167J-473	47K 1/6W CARBON	
	R739	QRD167J-331	330 1/6W CARBON	
	R740	QRD167J-333	33K 1/6W CARBON	
	R741	QRD167J-273	27K 1/6W CARBON	
	R742	QRD167J-394	390K 1/6W CARBON	
	R743	QRD167J-105	1M 1/6W CARBON	
	R744	QRD167J-470	47 1/6W CARBON	
	R745	QRD167J-473	47K 1/6W CARBON	
	R746	QRD167J-272	2.7K 1/6W CARBON	
	R747	QRD167J-682	6.8K 1/6W CARBON	
	R748	QRD167J-104	100K 1/6W CARBON	
	R749	QRD167J-562	5.6K 1/6W CARBON	
	R750	QRD167J-105	1M 1/6W CARBON	
	R751	QRD167J-105	1M 1/6W CARBON	
	R752	QRD167J-104	100K 1/6W CARBON	
	R753	QRD167J-562	5.6K 1/6W CARBON	
	R754	QRD167J-104	100K 1/6W CARBON	
	R755	QRD167J-103	10K 1/6W CARBON	
	R756	QRD167J-470	47 1/6W CARBON	
	R757	QRD167J-183	18K 1/6W CARBON	
	R758	QRD167J-183	18K 1/6W CARBON	
	R759	QRD167J-222	2.2K 1/6W CARBON	

⚠ : SAFETY PARTS

Resistors

BLOCK NO. 0 2

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R761	QRD167J-564	560K 1/6W CARBON	
	R762	QRD167J-224	220K 1/6W CARBON	
	R763	QRD167J-393	39K 1/6W CARBON	
	R764	QRD167J-224	220K 1/6W CARBON	
	R765	QRD167J-562	5.6K 1/6W CARBON	
	R766	QRD167J-392	3.9K 1/6W CARBON	
	R768	QRD167J-103	10K 1/6W CARBON	
	R769	QRD167J-102	1K 1/6W CARBON	
	R770	QRD167J-471	470 1/6W CARBON	
	R771	QRD167J-683	68K 1/6W CARBON	
	R772	QRD167J-183	18K 1/6W CARBON	
	R773	QRD167J-183	18K 1/6W CARBON	
	R774	QRD167J-470	47 1/6W CARBON	
	R775	QRD167J-335	3.3M 1/6W CARBON	
	R776	QRD167J-472	4.7K 1/6W CARBON	
	R777	QRD167J-472	4.7K 1/6W CARBON	
	R778	QRD167J-472	4.7K 1/6W CARBON	
	R781	QRD167J-684	680K 1/6W CARBON	
	R782	QRD167J-684	680K 1/6W CARBON	
	R783	QRD167J-823	82K 1/6W CARBON	
	R784	QRD167J-470	47 1/6W CARBON	
	R785	QRD167J-683	68K 1/6W CARBON	
	R786	QRD167J-123	12K 1/6W CARBON	
	R787	QRD167J-152	1.5K 1/6W CARBON	
	R788	QRD167J-2R2	2.2 1/6W CARBON	
	R790	QRD167J-684	680K 1/6W CARBON	
	R791	QRD167J-513	51K 1/6W CARBON	
	R792	QRD167J-513	51K 1/6W CARBON	
	R793	QRD167J-683	68K 1/6W CARBON	
	R794	QRD167J-683	68K 1/6W CARBON	
	R795	QRD167J-221	220 1/6W CARBON	
⚠	R798	PTH61G30BD2R2N	2.2 FUSIBLE	
⚠	R799	PTH61G30BD2R2N	2.2 FUSIBLE	
	R801	QRD167J-563	56K 1/6W CARBON	
	R802	QRD167J-563	56K 1/6W CARBON	
	R803	QRD167J-394	390K 1/6W CARBON	
	R804	QRD167J-681	680 1/6W CARBON	
	R805	QVPA601-202A	2K VARIABLE	
	R806	QRD167J-561	560 1/6W CARBON	
	R807	QRD167J-334	330K 1/6W CARBON	
	R808	QRD167J-222	2.2K 1/6W CARBON	
	R809	QVPA601-154A	150K VARIABLE	
	R810	QRD167J-223	22K 1/6W CARBON	
	R811	QRD167J-682	6.8K 1/6W CARBON	
	R812	QRD167J-103	10K 1/6W CARBON	
	R813	QRD167J-562	5.6K 1/6W CARBON	
	R814	QRD167J-562	5.6K 1/6W CARBON	
	R815	QRD167J-562	5.6K 1/6W CARBON	
	R816	QRD167J-562	5.6K 1/6W CARBON	
	R817	QRD167J-183	18K 1/6W CARBON	
	R819	QRD167J-103	10K 1/6W CARBON	
	R820	QRD167J-224	220K 1/6W CARBON	
	R821	QRD167J-103	10K 1/6W CARBON	
	R823	QRD167J-434	430K 1/6W CARBON	
	R824	QRD167J-474	470K 1/6W CARBON	
	R825	QRD167J-103	10K 1/6W CARBON	
	R826	QRD167J-184	180K 1/6W CARBON	
	R827	QRD167J-104	100K 1/6W CARBON	
	R828	QRD167J-104	100K 1/6W CARBON	
	R829	QRD167J-681	680 1/6W CARBON	
	R830	QRD167J-183	18K 1/6W CARBON	
	R832	QRD167J-102	1K 1/6W CARBON	
	R833	QRD167J-562	5.6K 1/6W CARBON	
	R837	QRD167J-470	47 1/6W CARBON	
	R838	QRD167J-562	5.6K 1/6W CARBON	
	R839	QRD167J-183	18K 1/6W CARBON	
	R841	QRD167J-182	1.8K 1/6W CARBON	
	R842	QRD167J-221	220 1/6W CARBON	
	R843	QRD167J-184	180K 1/6W CARBON	
	R844	QRD167J-393	39K 1/6W CARBON	
	R845	QVPA601-104A	100K VARIABLE	
	R846	QRD167J-224	220K 1/6W CARBON	
	R847	QRD167J-182	1.8K 1/6W CARBON	
	R848	QRD167J-122	1.2K 1/6W CARBON	
	R849	QRD167J-822	8.2K 1/6W CARBON	
	R850	QRD167J-822	8.2K 1/6W CARBON	
	R851	QRD167J-821	820 1/6W CARBON	
	R852	QRD167J-182	1.8K 1/6W CARBON	
	R853	QRD167J-101	100 1/6W CARBON	
	R855	QRD167J-682	6.8K 1/6W CARBON	
	R856	QRD167J-682	6.8K 1/6W CARBON	
	R857	QRD167J-102	1K 1/6W CARBON	
	R859	QRD167J-102	1K 1/6W CARBON	
	R860	QRD167J-102	1K 1/6W CARBON	
	R861	QRD167J-103	10K 1/6W CARBON	
	R862	QRD167J-272	2.7K 1/6W CARBON	
	R863	QRD167J-102	1K 1/6W CARBON	
	R864	QRD167J-271	270 1/6W CARBON	
	R865	QRD167J-103	10K 1/6W CARBON	
	R866	QRD167J-562	5.6K 1/6W CARBON	

⚠ : SAFETY PARTS

Resistors

BLOCK NO. 0 2

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R867	QRD167J-472	4.7K 1/6W CARBON	
	R868	QRD167J-822	8.2K 1/6W CARBON	
	R869	QRD167J-103	10K 1/6W CARBON	
	R870	QRD167J-132	1.3K 1/6W CARBON	
	R871	QRD167J-561	560 1/6W CARBON	
	R872	QRD167J-561	560 1/6W CARBON	
	R873	QRD167J-561	560 1/6W CARBON	
	R874	QRD167J-561	560 1/6W CARBON	
	R875	QRD167J-472	4.7K 1/6W CARBON	
	R876	QRD167J-390	39 1/6W CARBON	
	R877	QRD167J-181	180 1/6W CARBON	
	R878	QRD167J-101	100 1/6W CARBON	
	R879	QRD167J-183	18K 1/6W CARBON	
	R880	QRD167J-183	18K 1/6W CARBON	
	R881	QRD167J-183	18K 1/6W CARBON	
	R882	QRD167J-183	18K 1/6W CARBON	
	R883	QRD167J-183	18K 1/6W CARBON	
	R884	QRD167J-183	18K 1/6W CARBON	
	R885	QRD167J-183	18K 1/6W CARBON	
	R886	QRD167J-183	18K 1/6W CARBON	
	R887	QRD167J-243	24K 1/6W CARBON	
	R888	QRD167J-243	24K 1/6W CARBON	
	R889	QRD167J-243	24K 1/6W CARBON	
	R890	QRD167J-243	24K 1/6W CARBON	
	R891	QRD167J-183	18K 1/6W CARBON	
	R892	QRD167J-183	18K 1/6W CARBON	
	R893	QRD167J-183	18K 1/6W CARBON	
	R894	QRD167J-183	18K 1/6W CARBON	
	R895	QRD167J-511	510 1/6W CARBON	
	R896	QRD167J-511	510 1/6W CARBON	
	R897	QRD167J-112	1.1K 1/6W CARBON	
	R898	QRD167J-112	1.1K 1/6W CARBON	
	R899	QRD167J-472	4.7K 1/6W CARBON	
	R900	QRD167J-472	4.7K 1/6W CARBON	
	R901	QRD167J-273	27K 1/6W CARBON	
	R902	QRD167J-273	27K 1/6W CARBON	
	R903	QRD167J-331	330 1/6W CARBON	
	R904	QRD167J-331	330 1/6W CARBON	
	R921	QRD167J-681	680 1/6W CARBON	
	R922	QRD167J-681	680 1/6W CARBON	
	R923	QRD167J-241	240 1/6W CARBON	
	R924	QRD167J-241	240 1/6W CARBON	
	R925	QRD167J-104	100K 1/6W CARBON	
	R926	QRD167J-104	100K 1/6W CARBON	
	R927	QRD167J-392	3.9K 1/6W CARBON	
	R928	QRD167J-392	3.9K 1/6W CARBON	
	R929	QRD167J-684	680K 1/6W CARBON	
	R930	QRD167J-154	150K 1/6W CARBON	

⚠ : SAFETY PARTS

Others

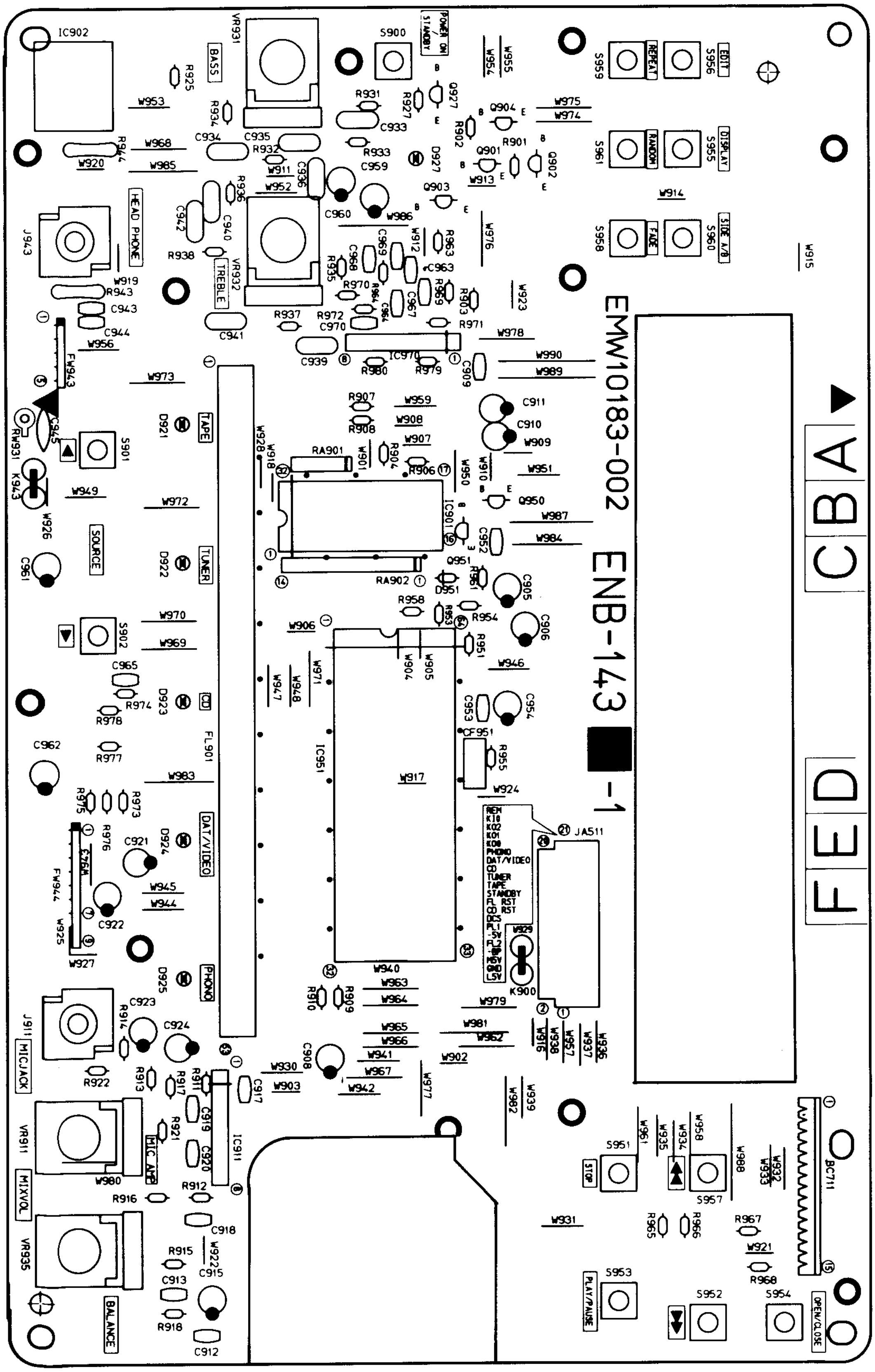
⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10199-002	CIRCUIT BOARD	
	J511	EMV7125-010R	CONNECTOR(10PIN)	
	J512	EMV7125-008R	CONNECTOR(8PIN)	
	L501	EQL0001-R45	INDUCTOR	
	L502	EQL0001-R45	INDUCTOR	
	P711	EMV5109-015A	PLUG ASSY(15PIN)	
	P993	VMC0161-013	MALE CONNECTOR(To CD Mecha.)	
	P994	EMV5109-010A	PLUG ASSY(10PIN)	
	X841	ECX0169-344KL	RESONATOR	
⚠	CP701	ICP-N5	I.C. PROTECTOR	
	JT701	EMV7122-004	CONNECTOR(4PIN)	
	JT702	EMV7122-004	CONNECTOR(4PIN)	

⚠ : SAFETY PARTS

■ENB-143☐ Front PC Board Ass'y

Note : ENB-143☐ varies according to the areas employed. See note (1) when placing an order.

BLOCK NO. 03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S900
POWER ON / STANDBY
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W955
S959
REPEAT
EDIT
S956
R925
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R927
Q927
W953
C933
R902
Q904
W975
W974
W968
C934
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R933
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R901
Q902
S961
RANDOM
DISPLAY
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C959
W913
R944
R936
W952
C936
Q903
W914
HEAD PHONE
J943
C942
C940
C960
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W976
S958
FADE
SIDE A/B
S960
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R938
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R966
R967
W921
R968
VR935
R915
W922
C915
C913
S953
PLAY/PAUSE
S952
S954
OPEN/CLOSE
BALANCE
R918
C912

Note (1)

PC Board Ass'y	Designated Areas
ENB-143 A	the U.S.A., Canada
ENB-143 B	Australia, Scandinavia Continental Europe Poland, Soviet Union and Rumania
ENB-143 C	Germany, Italy
ENB-143 D	the U.K.
ENB-143 E	Universal Type

Transistors

BLOCK NO. 03

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q901	2SA933S(R,S)	SILICON ROHM	
	Q902	DTA114YS	SILICON ROHM	
	Q903	2SC1740S(R,S)	SILICON ROHM	
	Q904	DTC114ES	SILICON ROHM	
	Q927	DTA114WS	SILICON ROHM	
	Q950	DTC114YS	SILICON ROHM	
	Q951	DTA114YS	SILICON ROHM	

⚠ : SAFETY PARTS

I.C.s

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC901	XR1094CP	I.C. EXAR JAPAN	
	IC902	SPS-420-1	I.C. SANYO	
	IC911	BA15218N	I.C. ROHM	E
	IC951	HD404019RB76S	I.C. HITACHI	
	IC970	BA15218N	I.C. ROHM	

⚠ : SAFETY PARTS

Diodes

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D921	SLR-34VC3F	L.E.D. ROHM	
	D922	SLR-34VC3F	L.E.D. ROHM	
	D923	SLR-34VC3F	L.E.D. ROHM	
	D924	SLR-34VC3F	L.E.D. ROHM	
	D925	SLR-34VC3F	L.E.D. ROHM	
	D927	SLR-34VC3F	L.E.D. ROHM	
	D951	1SS133	SILICON ROHM	

⚠ : SAFETY PARTS

Capacitors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C905	QEK51HM-226	22MF 50V ELECTRO	
	C906	QEK60JM-476	47MF 6.3V ELECTRO	
	C908	QEK51HM-106	10MF 50V ELECTRO	
	C909	QCXB1CM-152	1500PF 16V CERAMIC	
	C910	QEK51HM-225G	2.2MF 50V ELECTRO	
	C911	QEK51HM-106	10MF 50V ELECTRO	
	C912	QCGB1HK-102	1000PF 50V CERAMIC	E
	C913	QCGB1HK-102	1000PF 50V CERAMIC	E
	C915	QEK51HM-105G	1MF 50V ELECTRO	E
	C917	QCBB1HK-101	100PF 50V CERAMIC	E
	C918	QCBB1HK-101	100PF 50V CERAMIC	E
	C919	QCBB1HK-101	100PF 50V CERAMIC	E
	C920	QCBB1HK-101	100PF 50V CERAMIC	E
	C921	QEK51HM-105G	1MF 50V ELECTRO	
	C922	QEK51HM-105G	1MF 50V ELECTRO	
	C923	QEK51HM-475	4.7MF 50V ELECTRO	E
	C924	QEK51HM-475	4.7MF 50V ELECTRO	E
	C933	QFLB1HJ-183	0.018MF 50V MYLAR	
	C934	QFLB1HJ-183	0.018MF 50V MYLAR	
	C935	QFV81HJ-823	0.082MF 50V T.FILM	
	C936	QFV81HJ-823	0.082MF 50V T.FILM	
	C939	QFLB1HJ-272	2700PF 50V MYLAR	
	C940	QFLB1HJ-272	2700PF 50V MYLAR	
	C941	QFLB1HJ-183	0.018MF 50V MYLAR	
	C942	QFLB1HJ-183	0.018MF 50V MYLAR	
	C943	QCBB1HK-471	470PF 50V CERAMIC	B
	C943	QCBB1HK-471	470PF 50V CERAMIC	C
	C943	QCBB1HK-471	470PF 50V CERAMIC	D
	C944	QCBB1HK-471	470PF 50V CERAMIC	B
	C944	QCBB1HK-471	470PF 50V CERAMIC	C

⚠ : SAFETY PARTS

Capacitors

BLOCK NO. 03

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C944	QCBB1HK-471	470PF 50V CERAMIC	D
	C945	QCS21HJ-220	22PF 50V CERAMIC	A
	C945	QCS21HJ-220	22PF 50V CERAMIC	C
	C952	QCVB1CM-103	0.01MF 16V CERAMIC	
	C953	QCHB1EZ-223	0.022MF 25V CERAMIC	
	C954	QEK51CM-107	100MF 16V ELECTRO	
	C959	QEK51HM-475	4.7MF 50V ELECTRO	
	C960	QEK51HM-475	4.7MF 50V ELECTRO	
	C961	QEK51HM-475	4.7MF 50V ELECTRO	
	C962	QEK51HM-475	4.7MF 50V ELECTRO	
	C963	QCBB1HK-101	100PF 50V CERAMIC	
	C964	QCBB1HK-101	100PF 50V CERAMIC	
	C965	QCXB1CM-222	2200PF 16V CERAMIC	
	C967	QFLB1HJ-821	820PF 50V MYLAR	
	C968	QFLB1HJ-821	820PF 50V MYLAR	
	C969	QCSB1HK-4R7	4.7PF 50V CERAMIC	
	C970	QCSB1HK-4R7	4.7PF 50V CERAMIC	

⚠ : SAFETY PARTS

Resistors

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R901	QRD167J-103	10K 1/6W CARBON	
	R902	QRD167J-103	10K 1/6W CARBON	
	R903	QRD167J-104	100K 1/6W CARBON	
	R904	QRD167J-102	1K 1/6W CARBON	
	R906	QRD167J-105	1M 1/6W CARBON	
	R907	QRD167J-4R7	4.7 1/6W CARBON	
	R908	QRD167J-4R7	4.7 1/6W CARBON	
	R911	QRD167J-104	100K 1/6W CARBON	E
	R912	QRD167J-104	100K 1/6W CARBON	E
	R913	QRD167J-102	1K 1/6W CARBON	E
	R914	QRD167J-102	1K 1/6W CARBON	E
	R915	QRD167J-103	10K 1/6W CARBON	E
	R916	QRD167J-621	620 1/6W CARBON	E
	R917	QRD167J-621	620 1/6W CARBON	E
	R918	QRD167J-103	10K 1/6W CARBON	E
	R921	QRD167J-104	100K 1/6W CARBON	E
	R922	QRD167J-104	100K 1/6W CARBON	E
	R925	QRD167J-271	270 1/6W CARBON	
	R927	QRD167J-151	150 1/6W CARBON	
	R931	QRD167J-163	16K 1/6W CARBON	
	R932	QRD167J-163	16K 1/6W CARBON	
	R933	QRD167J-362	3.6K 1/6W CARBON	
	R934	QRD167J-362	3.6K 1/6W CARBON	
	R935	QRD167J-222	2.2K 1/6W CARBON	
	R936	QRD167J-222	2.2K 1/6W CARBON	
	R937	QRD167J-301	300 1/6W CARBON	
	R938	QRD167J-301	300 1/6W CARBON	
	R943	QRD12CJ-331S	330 1/2W R.NETWORK	
	R944	QRD12CJ-331S	330 1/2W R.NETWORK	
	R951	QRD167J-103	10K 1/6W CARBON	
	R953	QRD167J-103	10K 1/6W CARBON	
	R954	QRD167J-103	10K 1/6W CARBON	
	R955	QRD167J-105	1M 1/6W CARBON	
	R958	QRD167J-103	10K 1/6W CARBON	
	R961	QRD167J-271	270 1/6W CARBON	
	R963	QRD167J-222	2.2K 1/6W CARBON	
	R964	QRD167J-222	2.2K 1/6W CARBON	
	R965	QRD167J-223	22K 1/6W CARBON	
	R966	QRD167J-223	22K 1/6W CARBON	
	R967	QRD167J-223	22K 1/6W CARBON	
	R968	QRD167J-223	22K 1/6W CARBON	
	R969	QRD167J-223	22K 1/6W CARBON	
	R970	QRD167J-223	22K 1/6W CARBON	
	R971	QRD167J-104	100K 1/6W CARBON	
	R972	QRD167J-104	100K 1/6W CARBON	
	R974	QRD167J-472	4.7K 1/6W CARBON	
	R975	QRD167J-392	3.9K 1/6W CARBON	
	R976	QRD167J-392	3.9K 1/6W CARBON	
	R977	QRD167J-183	18K 1/6W CARBON	
	R978	QRD167J-183	18K 1/6W CARBON	
	R979	QRD167J-822	8.2K 1/6W CARBON	
	R980	QRD167J-822	8.2K 1/6W CARBON	
	RA901	QRB059J-104	100K 1/10W R.NETWORK	
	RA902	QRB139J-104	100K 1/10W R.NETWORK	
	VR911	QVJB84B-E54B	50K VARIABLE	E
	VR931	QVJB84C-E15B	100K VARIABLE	
	VR932	QVJB84C-E15B	100K VARIABLE	
	VR935	QVJA84W-E15B	100K VARIABLE	

⚠ : SAFETY PARTS

Others

BLOCK NO. 03

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10183-002	CIRCUIT BOARD	
	J911	QMS3R10-E40S	MINI JACK(MICROPHONE)	E
	J943	QMS3R10-E40S	MINI JACK(HEADPHONE)	
	K900	ENZ8101-008	INDUCTOR	C
	K943	ENZ8101-008	INDUCTOR	C
	S900	ESP0001-023M	TACT SWITCH(SOURCE→)	
	S901	ESP0001-023M	TACT SWITCH(SOURCE←)	
	S902	ESP0001-023M	TACT SWITCH(POEWR)	
	S951	ESP0001-023M	TACT SWITCH(STOP/CLEAR)	
	S952	ESP0001-023M	TACT SWITCH(FORWARD SKIP)	
	S953	ESP0001-023M	TACT SWITCH(PLAY/PAUSE)	
	S954	ESP0001-023M	TACT SWITCH(OPEN/CLOSE)	
	S955	ESP0001-023M	TACT SWITCH(DISPLAY)	
	S956	ESP0001-023M	TACT SWITCH(A.EDIT)	
	S957	ESP0001-023M	TACT SWITCH(BACKWARD SKIP)	
	S958	ESP0001-023M	TACT SWITCH(FADE)	
	S959	ESP0001-023M	TACT SWITCH(REPEAT)	
	S960	ESP0001-023M	TACT SWITCH(SIDE A/B)	
	S961	ESP0001-023M	TACT SWITCH(RANDOM)	
	BC711	EWS26F-G416J2	SOCKET WIRE(15PIN)	
	BK901	E307913-001	FL HOLDER	
	BK902	E307913-002	FL HOLDER	
	CF951	ECX0004-194KM	RESONATOR	
	FL901	ELU0001-131	FL TUBE	
	FS901	E3400-444	FELT SPACER	
	FW943	EWR35B-13LST	FLAT WIRE(5PIN)	
	FW944	EWR37B-13LST	FLAT WIRE(9PIN)	A
	FW944	EWR37B-13LST	FLAT WIRE(9PIN)	B
	FW944	EWR37B-13LST	FLAT WIRE(9PIN)	C
	FW944	EWR37B-13LST	FLAT WIRE(9PIN)	D
	FW944	EWR39B-13LST	FLAT WIRE(9PIN)	E
	JA511	VMC0161-R21	PIN CONNECTOR(21PIN)	
	RW931	EWT011-104	TERMINAL WIRE	A
	RW931	EWT011-104	TERMINAL WIRE	C

⚠ : SAFETY PARTS

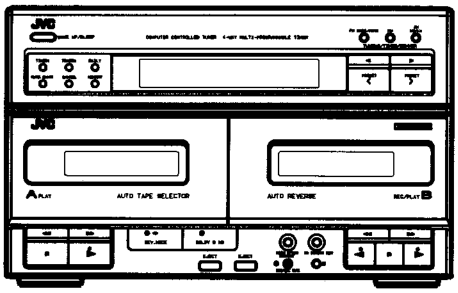
JVC

SERVICE MANUAL

COMPACT COMPONENT SYSTEM

CA-MX44BK

(Unit No. DR-MX44BK)



* *For instruction manual, please refer to the CA-MX44BK (S.M.NO.20325) .*

* *AX-MX44BK is needed (for power supply etc.) when servicing.*

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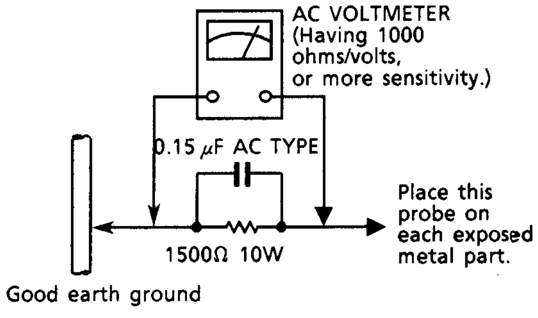
Connection Diagram .... Insertion
Schematic Diagrams .... Insertion
Printed Circuit Board .... Insertion
Parts List .... Insertion

No. 20327
Feb. 1992

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularily any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 µF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



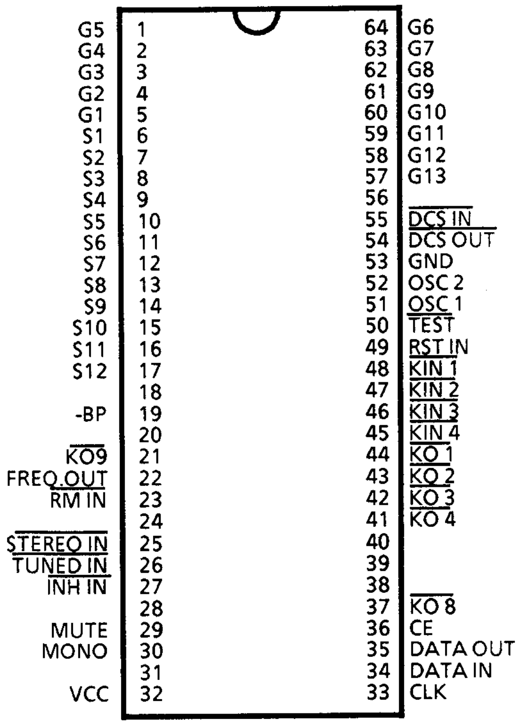
Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Description of Major LSIs

■ HD614089SC91 (IC201) : Tuner Control & FL Driver

(1) Terminal Layout


G5 1
G4 2
G3 3
G2 4
G1 5
S1 6
S2 7
S3 8
S4 9
S5 10
S6 11
S7 12
S8 13
S9 14
S10 15
S11 16
S12 17
18
-BP 19
20
KO9 21
FREQ.OUT 22
RM IN 23
24
STEREO IN 25
TUNED IN 26
INH IN 27
28
MUTE 29
MONO 30
31
VCC 32
64 G6
63 G7
62 G8
61 G9
60 G10
59 G11
58 G12
57 G13
56
55 DCS IN
54 DCS OUT
53 GND
52 OSC 2
51 OSC 1
50 TEST
49 RST IN
48 KIN 1
47 KIN 2
46 KIN 3
45 KIN 4
44 KO 1
43 KO 2
42 KO 3
41 KO 4
40
39
38
37 KO 8
36 CE
35 DATA OUT
34 DATA IN
33 CLK

(2) Table of Key Matrix

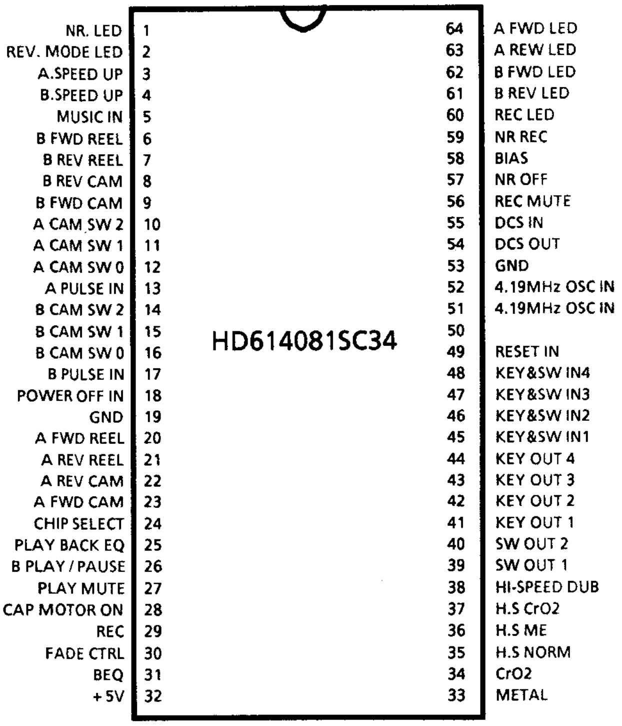
	48 (K-IN1)	47 (K-IN2)	46 (K-IN3)	45 (K-IN4)
44 (K-OUT1)		TIMER 1	TIMER 2	DAILY
43 (K-OUT2)	WAKE-UP /SLEEP	CLOCK ADJ	CANCEL	MEMORY
42 (K-OUT3)	UP	DOWN	PRESET UP	PRESET DOWN
41 (K-OUT4)	FM	AM	FM MODE /MUTE	

(3) Pin Functions

Pin No.	Name	I/O	Function
1~5	G5~G1	O	FL grid control output
6~17	S1~S12	O	FL segment control output
19	-BP	–	Power supply for FL drive circuit
21	KO9	O	Key matrix output
22	FREQ.OUT	O	Test signal output
23	RM IN	I	Pull up
25	STEREO IN	I	STEREO indicator input
26	TUNED IN	I	Tuned indicator input
27	INH IN	I	Inhibit signal input
29	MUTE	O	Muting output
30	MONO	–	NC
32	VCC	–	Power supply (+5V)
33	CLK	O	Serial clock output to PLL (IC102 : LC7218).
34	DATA IN	I	Serial data input from PLL (IC102 : LC7218).
35	DATA OUT	O	Serial data output to PLL (IC102 : LC7218).
36	CE	O	Chip enable output to PLL (IC102 : LC7218).
37	KO8	O	Key matrix output
41~44	KO4~KO1	O	Key matrix output
45~48	KI4~KI1	I	Key matrix input
49	RST IN	I	Reset signal input
50	TEST	–	Connect to Vcc
51	OSC 1	I	Clock oscillation input
52	OSC 2	O	Clock oscillation output
53	GND	–	GND
54	DCS OUT	O	COMPULINK signal output
55	DCS IN	I	COMPULINK signal input
57~64	G13~G6	O	FL grid control output

■ HD614081SC34 (IC491) : Deck System Controller

1. Terminal Layout


NR. LED 1
REV. MODE LED 2
A.SPEED UP 3
B.SPEED UP 4
MUSIC IN 5
B FWD REEL 6
B REV REEL 7
B REV CAM 8
B FWD CAM 9
A CAM SW 2 10
A CAM SW 1 11
A CAM SW 0 12
A PULSE IN 13
B CAM SW 2 14
B CAM SW 1 15
B CAM SW 0 16
B PULSE IN 17
POWER OFF IN 18
GND 19
A FWD REEL 20
A REV REEL 21
A REV CAM 22
A FWD CAM 23
CHIP SELECT 24
PLAY BACK EQ 25
B PLAY / PAUSE 26
PLAY MUTE 27
CAP MOTOR ON 28
REC 29
FADE CTRL 30
BEQ 31
+5V 32
HD614081SC34
64 A FWD LED
63 A REW LED
62 B FWD LED
61 B REV LED
60 REC LED
59 NR REC
58 BIAS
57 NR OFF
56 REC MUTE
55 DCS IN
54 DCS OUT
53 GND
52 4.19MHz OSC IN
51 4.19MHz OSC IN
50
49 RESET IN
48 KEY&SW IN4
47 KEY&SW IN3
46 KEY&SW IN2
45 KEY&SW IN1
44 KEY OUT 4
43 KEY OUT 3
42 KEY OUT 2
41 KEY OUT 1
40 SW OUT 2
39 SW OUT 1
38 HI-SPEED DUB
37 H.S CrO2
36 H.S ME
35 H.S NORM
34 CrO2
33 METAL

2. Key Matrix

	KEY IN 1	KEY IN 2	KEY IN 3	KEY IN 4
KEY OUT 1		A ◀◀	A ▶▶	A ▶
KEY OUT 2	B ◀	B ◀◀	B ▶▶	B ▶
KEY OUT 3	A ■	B ■	B ●	B ❚❚
KEY OUT 4	A ▶▶ B	DOLBY	REV. MODE	CD REC.
SW OUT 1	A CrO2	B CrO2		
SW OUT 2	B PACK	REV REC	FWD REC	A PACK

3. Pin Functions

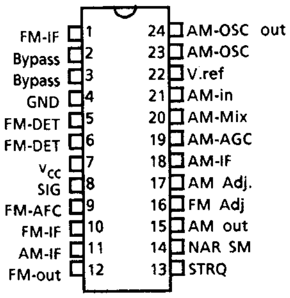
Pin NO.	symbol	I/O	Function	Pin NO.	symbol	I/O	Function
1	NR LED	O	NR indicator signal output	33	METAL	O	Not used
2	REV MODE LED	O	REV MODE indicator signal output	34	CrO2	O	"H" with normal speed and CrO2 position
3	A SPEED UP	O	A deck Reel motor speed control output	35	HS NORM	O	"H" with high speed and normal position
4	B SPEED UP	O	B deck Reel motor speed control output	36	HS ME	O	"H" with high speed and Metal position
5	MUSIC IN	I	Music scan signal input	37	HS CrO2	O	"H" with high speed and CrO2 position
6	B FWD REEL	O	FWD direction control for B reel motor	38	HI SPEED DUB	O	High speed dubbing control signal output
7	B REV REEL	O	REV direction control for B reel motor	39	SW OUT1	O	Leaf switch input
8	B REV CAM	O	REV direction control for B cam motor	40	SW OUT2	O	Leaf switch input
9	B FWD CAM	O	FWD direction control for B cam motor	41	KEY OUT1	O	Key matrix output
10	A CAM SW2	I	A CAM SW input	42	KEY OUT2	O	Key matrix output
11	A CAM SW1	I	A CAM SW input	43	KEY OUT3	O	Key matrix output
12	A CAM SW0	I	A CAM SW input	44	KEY OUT4	O	Key matrix output
13	A PULSE IN	I	A deck reel pulse input	45	KEY&SW IN1	I	Key matrix and Leaf switch input
14	B CAM SW2	I	B CAM SW input	46	KEY&SW IN2	I	Key matrix and Leaf switch input
15	B CAM SW1	I	B CAM SW input	47	KEY&SW IN3	I	Key matrix and Leaf switch input
16	B CAM SW0	I	B CAM SW input	48	KEY&SW IN4	I	Key matrix and Leaf switch input
17	B PULSE IN	I	B deck reel pulse input	49	RESET IN	I	Reset signal input
18	POWER OFF IN	I	Power ON / OFF signal input	50	TO VCC	-	Connect to VCC
19	GND	-	Ground	51	OSC IN	I	Clock oscilator input
20	A FWD REEL	O	FWD direction control for A reel motor	52	OSC IN	I	Clock oscilator input
21	A REV REEL	O	REV direction control for A reel motor	53	GND	-	Ground
22	A REV CAM	O	REV direction control for A cam motor	54	DCS OUT	O	DCS signal output
23	A FWD CAM	O	FWD direction control for A cam motor	55	DCS IN	I	DCS signal input
24	CHIP SELECT	I	H : A 1 way L : A reverse	56	REC MUTE	O	Recording mute control signal output
25	PLAY BACK EQ	O	Play back EQ control signal output	57	NR OFF	O	NR ON/OFF control signal output to C351
26	B PLAY/PAUSE	O	L : B play / B pause H : Other	58	BIAS	O	BIAS control signal output
27	PLAY MUTE	O	Play back mute signal output	59	NR REC	O	REC / PB control signal output to IC351
28	CAPSTAN ON	O	Capstan motor ON/OFF control	60	REC LED	O	Recording indicator signal output
29	REC	O	PB / REC control signal output to IC331	61	B REV LED	O	B REV indicator signal output
30	FADE CTRL	O	Fade control signal output	62	B FWD LED	O	B FWD indicator signal output
31	BEQ	O		63	A REW LED	O	A REW indicator signal output
32	+5V	-	Power supply	64	A FWD LED	O	A FWD indicator signal output

Internal Block Diagrams of the Other ICs

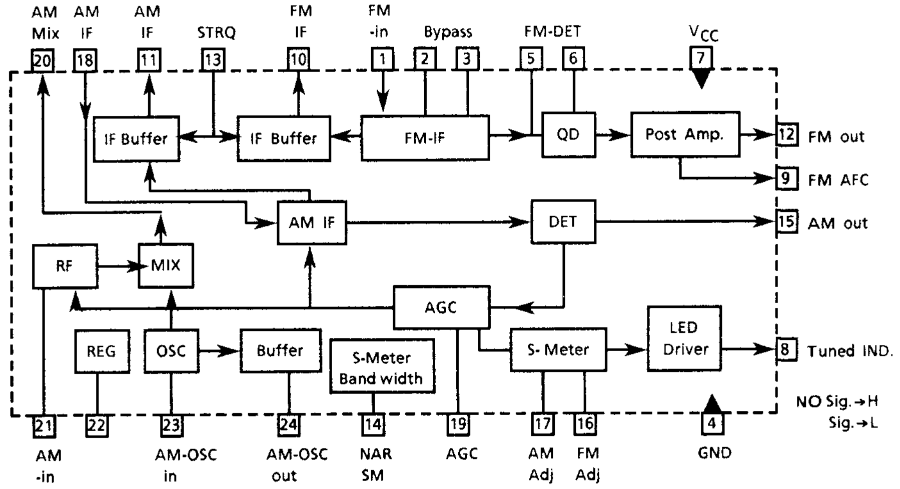
■ LA1266A (IC104) : FM AM IF AMP & detector

1. The main function descriptions
   (1) Amplify and detect of FM intermodulation frequencies.
   (2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Top View


FM-IF 1
Bypass 2
Bypass 3
GND 4
FM-DET 5
FM-DET 6
Vcc 7
SIG 8
FM-AFC 9
FM-IF 10
AM-IF 11
FM-out 12
24 AM-OSC out
23 AM-OSC
22 V.ref
21 AM-in
20 AM-Mix
19 AM-AGC
18 AM-IF
17 AM Adj.
16 FM Adj
15 AM out
14 NAR SM
13 STRQ

3. Block Diagram


AM Mix 20
AM IF 18
AM IF 11
STRQ 13
FM IF 10
FM -in 1
Bypass 2 3
FM-DET 5 6
Vcc 7
IF Buffer
IF Buffer
FM-IF
QD
Post Amp.
12 FM out
9 FM AFC
AM IF
DET
15 AM out
RF
MIX
AGC
REG
OSC
Buffer
S-Meter Band width
S- Meter
LED Driver
8 Tuned IND.
NO Sig.→H
Sig.→L
21 AM -in
22
23 AM-OSC in
24 AM-OSC out
14 NAR SM
19 AGC
17 AM Adj
16 FM Adj
4 GND

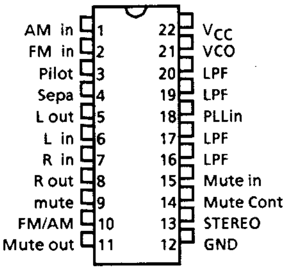
4. Pin Functions

Pin No.	Symbol	I/O	Function
1	FM IF	I	This is an input terminal of FM IF Signal.
2, 3	Bypass	-	Bypass of FM IF Amp.
4	GND	-	This is the device ground terminal.
5, 6	FM DET	-	FM detect transformer.
7	V_{CC}	-	This is the power supply terminal.
8	SIGNAL	O	Mute drive and signal stop drive output when tuning. Active Low
9	FM AFC	O	This is an output terminal of voltage for FM - AFC.
10	FM IF	O	When the IF REQ signal of IC102(LC7218) applies to pin13, the signal of FM IF outputs.
11	AM IF	O	When the IF REQ signal of IC102(LC7218) applies to pin13, the signal of AM IF outputs.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal goes to "High".
14	NAR SM	-	Control the Band-width of AM signal meter.
15	AM out	O	AM detection output.
16	FM Adj	-	For adjust the stop level (or mute level) of FM.
17	AM Adj	-	For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF	-	Control the Band-width of FM signal meter.
23	AM-OSC	-	This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

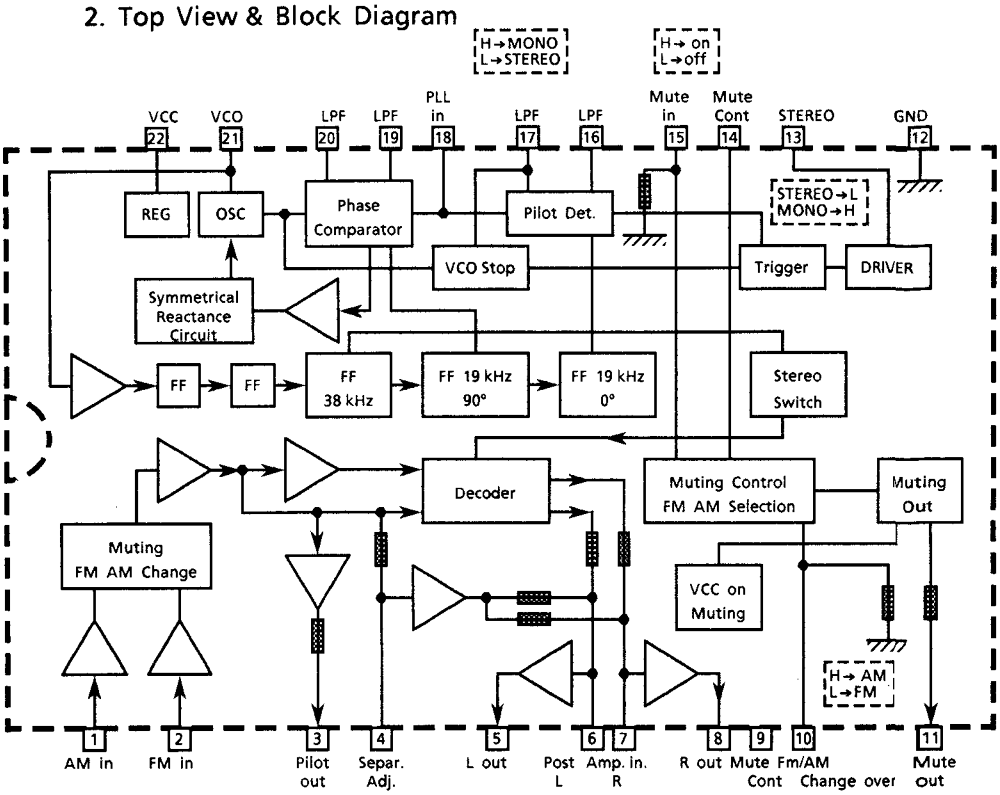
■ LA3401 (IC105) : FM MPX Demodulator

1. The main function descriptions
   - (1) Demodulate the FM Multiplex Signal (Stereo signal).
   - (2) When receiving FM Stereo Signal, it outputs the signal for indicator.
   - (3) AM/FM Audio Amplifier.

(1) Terminal Layout


AM in 1
FM in 2
Pilot 3
Sepa 4
L out 5
L in 6
R in 7
R out 8
mute 9
FM/AM 10
Mute out 11
22 Vcc
21 VCO
20 LPF
19 LPF
18 PLLin
17 LPF
16 LPF
15 Mute in
14 Mute Cont
13 STEREO
12 GND

2. Top View & Block Diagram


H→MONO
L→STEREO
H→ on
L→off
VCC 22
VCO 21
LPF 20
LPF 19
PLL in 18
LPF 17
LPF 16
Mute in 15
Mute Cont 14
STEREO 13
GND 12
REG
OSC
Phase Comparator
Pilot Det.
STEREO→L
MONO→H
VCO Stop
Trigger
DRIVER
Symmetrical Reactance Circuit
FF
FF
FF 38 kHz
FF 19 kHz 90°
FF 19 kHz 0°
Stereo Switch
Decoder
Muting Control FM AM Selection
Muting Out
Muting FM AM Change
VCC on Muting
H→ AM
L→FM
1 AM in
2 FM in
3 Pilot out
4 Separ. Adj.
5 L out
6 Post L
7 Amp. in. R
8 R out
9 Mute Cont
10 Fm/AM Change over
11 Mute out

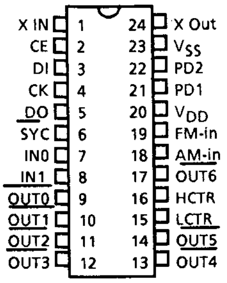
3. Pin Functions

Pin No.	Symbol	I/O	Function
1	AM in		This is an input terminal for AM detection signal.
2	FM in		This is an input terminal for FM detection signal.
3	Pilot out		Output of MPX pilot signal (Connect to Pin18).
4	Sepa. Adj.		Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	O	Reversal output of Pin5.
7	R	O	Reversal output of Pin8.
8	R out	O	Right channel signal output
9	Mute Cont		The mute time is controlled by the connected capacitor when turning the power switch on.
10	FM/AM	I	Change over the FM/AM input. "H" : AM, "L" : FM
11	Mute out	---	Not use
12	GND		Ground terminal.
13	Stereo	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont		The mute time is controlled by the connected capacitor when changing over the FM/AM .
15	Mute in	I	MutE signal input. "H" : Mute on, "L" : Mute off.
16	LPF		Low pass filter of pilot detector.
17	LPF		While this terminal goes to "H", the VCO stop.
18	Pilot in		PLL input.
19	LPF		Low-pass filter of PLL.
20	LPF		Low-pass filter of PLL.
21	VCO		Voltage controlled oscillator terminal.
22	V_{CC}		Power supply.

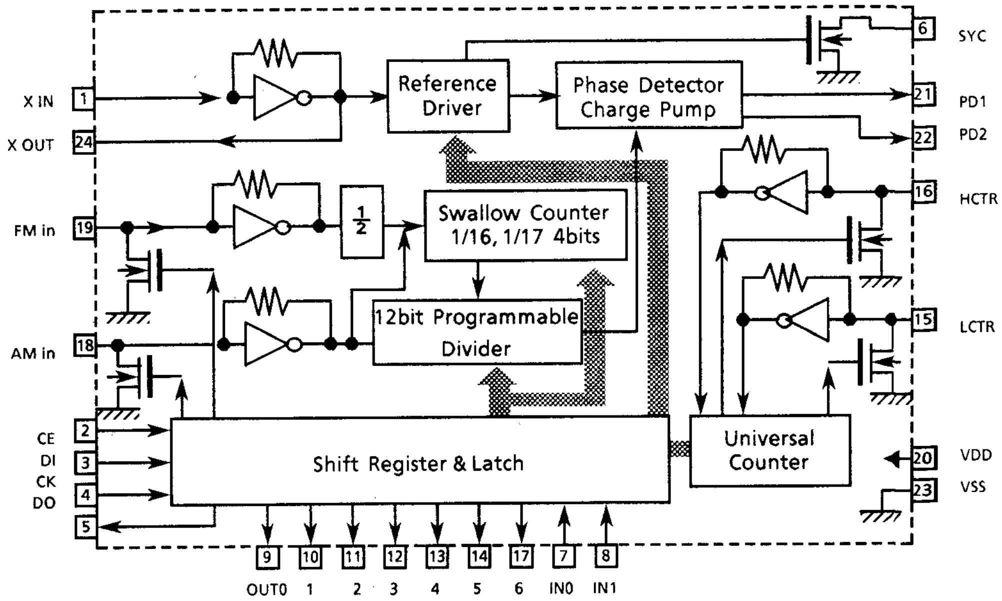
■ LC7218 (IC102) : PLL Synthesizer

1. The main function descriptions
   (1) It makes the local oscillation frequency by the control data from IC102.
   (2) Decode the control signal and transmit the signal for receiving conditions.
   (3) For the best tuning, count the internal-frequency and transmit the data to IC102.

2. Terminal Layout


X IN 1
CE 2
DI 3
CK 4
DO 5
SYC 6
IN0 7
IN1 8
OUT0 9
OUT1 10
OUT2 11
OUT3 12
24 X Out
23 VSS
22 PD2
21 PD1
20 VDD
19 FM-in
18 AM-in
17 OUT6
16 HCTR
15 LCTR
14 OUT5
13 OUT4

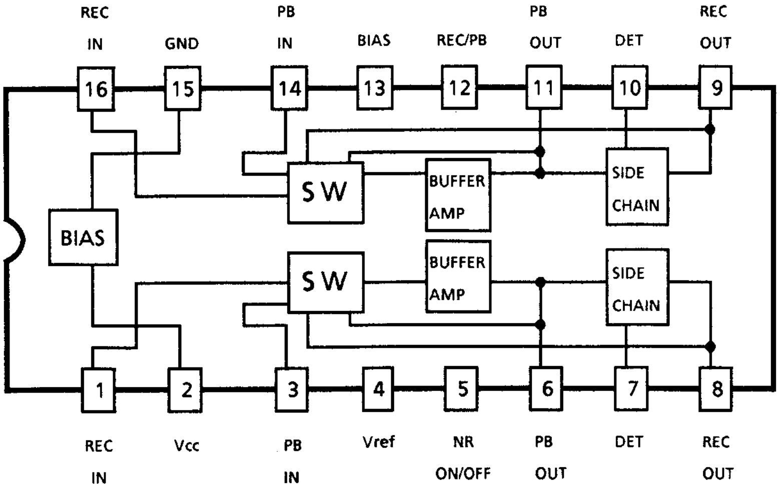
3. Block Diagram


X IN 1
X OUT 24
FM in 19
AM in 18
CE 2
DI 3
CK 4
DO 5
Reference Driver
Phase Detector Charge Pump
½
Swallow Counter 1/16, 1/17 4bits
12bit Programmable Divider
Shift Register & Latch
Universal Counter
6 SYC
21 PD1
22 PD2
16 HCTR
15 LCTR
20 VDD
23 VSS
9 10 11 12 13 14 17 7 8
OUT0 1 2 3 4 5 6 IN0 IN1

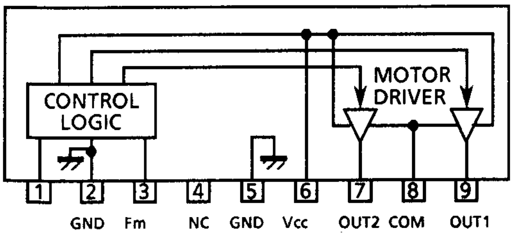
4. Pin Functions

Pin No.	Symbol	Name	I/O	Function
1, 24	X in, X out	X in, X out	I/O	Crystal oscillator (7.2MHz).
2	CE	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	DI	I	Receive the control data from the controller (IC201).
4	CK	CK	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CK.
6	SYC	SYC	—	Not use
7	IN0	Tuned in	I	Receive the tuned signal from IC104 (LA1266A).
8	IN1	Stop in	I	Not use
9	OUT 0	POWER	---	Not use
10	OUT 1	QSC	---	Not use
11	OUT2	MONO	---	MONO
12	OUT3	FM	O	It is "L" on FM mode.
13	OUT4	MW	O	It is "L" on AM mode.
14	OUT5	LW	—	Not use
15	LCTR	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	HCTR	FM-IF	I	Universal counter input for FM-IF from IC104 (LA1266A).
17	OUT6	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) goes to "H".
18	AM in	AM osc	I	Input the local oscillator signal of AM.
19	FM in	FM osc	I	Input the local oscillator signal of FM.
20	V_{DD}	V_{DD}	—	This is a terminal of power supply.
21	PD1	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency, high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	PD2	O	Not use
23	Vss	Vss	—	GND

■ HA12136A (IC351) : Dolby-B Noise Reduction Amplifier


REC IN
16
GND
15
PB IN
14
BIAS
13
REC/PB
12
PB OUT
11
DET
10
REC OUT
9
SW
BUFFER AMP
SIDE CHAIN
BIAS
SW
BUFFER AMP
SIDE CHAIN
1
REC IN
2
Vcc
3
PB IN
4
Vref
5
NR ON/OFF
6
PB OUT
7
DET
8
REC OUT

■ BA6218 (IC451~454): Motor Driver


CONTROL LOGIC
MOTOR DRIVER
1
2
3
4
5
6
7
8
9
GND
Fm
NC
GND
Vcc
OUT2
COM
OUT1

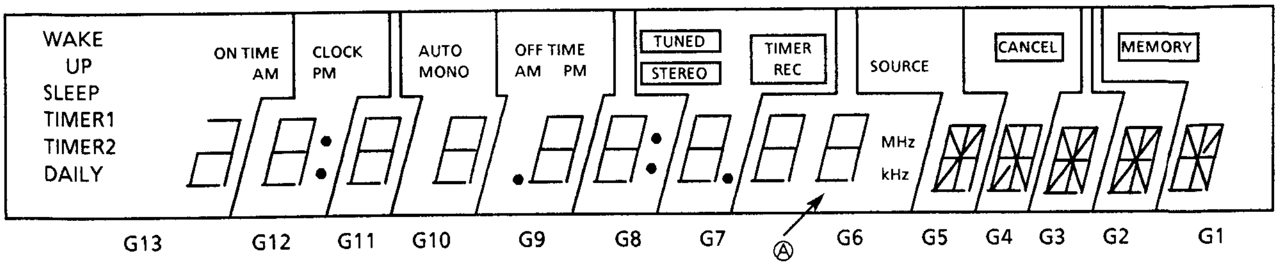
Function table

3pin (IN)	1pin (IN)	7pin (OUT)	9pin (OUT)
H	L	H	L
L	H	L	H
H	H	L	L
L	L	OPEN	OPEN

Internal Wiring of the FL Display Tube

■ ELU0001-101:(FL201)

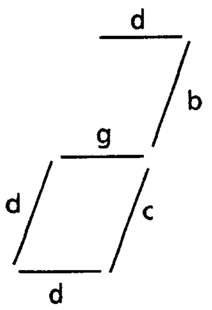
1. Grid Assignment


WAKE
UP
SLEEP
TIMER1
TIMER2
DAILY
ON TIME
AM
CLOCK
PM
AUTO
MONO
OFF TIME
AM PM
TUNED
STEREO
TIMER
REC
SOURCE
CANCEL
MEMORY
MHz
kHz
G13
G12
G11
G10
G9
G8
G7
Ⓐ
G6
G5
G4
G3
G2
G1

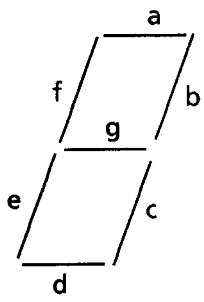
2 .Pin Connections

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CONNECTION	F1	F1	NP	NC	G13	S1	S2	G13	S3	S4	G12	G12	S5	G11	S6	G10	S7	G9	G9	S8	S9	G8	S10
PIN NO.	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
CONNECTION	G7	S11	G6	S12	NC	NC	NC	G6	NC	G5	NC	G4	G4	NC	G3	NC	G2	NC	G1	NC	NP	F2	F2

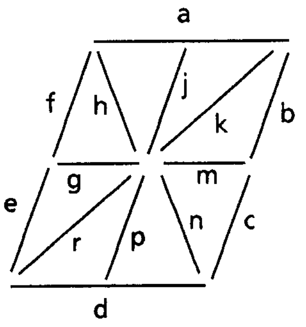
【Note】 F : Filament S : Segment G : Grid NP : No Pin NC : Non Connection



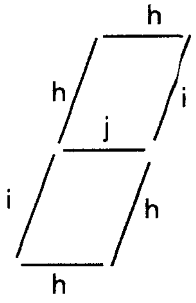
G13



G6 ~ G12


a
f
h
j
k
b
g
m
e
r
p
n
c
d

G1 ~ G5



Ⓐ

3.Anode Connections

	G13	G12	G11	G10	G9	G8	G7	G6	G5	G4	G3	G2	G1
S1	d	d	d	d	d	d	d	d	d	d	d	d	d
S2	–	e	e	e	e	e	e	e	e	e	e	e	e
S3	c	c	c	c	c	c	c	c	c	c	c	c	c
S4	g	–	–	–	–	–	–	kHz	r	r	r	r	m
S5	b	• •	–	–	•	• •	•	MHz	k	n	n	n	n
S6	DAILY	–	–	–	AM	–	STEREO	i	j,p	j,p	j,p	j,p	j,p
S7	TIMER2	g	g	g	g	g	g	g	g,m	g,m	g,m	g,m	g
S8	TIMER1	f	f	f	f	f	f	f	f	f	f	f	f
S9	SLEEP	b	b	b	b	b	b	b	b	b	b	b	b
S10	WAKE UP	a	a	a	a	a	a	a	a	a	a	a	a
S11	AM	PM	–	MONO	PM	–	TUNED	j	h	h	h	h	h,k
S12	ON TIME	CLOCK	–	AUTO	OFFTIME	–	TIMER REC	h	SOURCE	CANCEL	k	k	MEMORY

Disassemly Procedures

Removing the top cover

1. Remove the 4 screws on both sides and the 2 screws located on the rear panel.
2. Slightly open both sides of the metal cover to the left and right, and raise from the rear. Then slowly lift up and straight back.

Removing the front panel assembly

1. Remove the top cover
2. Remove the 4 screws Ⓐ fixing the front panel.
3. Release the 3 hooks Ⓑ to remove the front panel assembly.
4. Pull out the connectors. (J101,J102,J485,J486,J487,P333,P331)

5 Remove the front panel assembly.

Removing the front panel

1. Remove the front panel assembly.
2. Remove the cassette mechanisms.
3. Remove the tuner P.C.Board (ENA-126-1).

Removing the cassette mechanisms

1 Remove the 8 screws fixing the cassette mechanisms.

Reference: The screw Ⓒ is a doublethread screw for plastics
The screw Ⓓ is a tap tight screw for chassis.

2. Push the EJECT button to remove the cassette mechanisms.

Note : The cassette mechanism is grounded through the bottom cover, so when checking the operations with the bottom cover removed, be sure to ground the chassis by using an alligator clip or other suitable gadget. Also, as this cassette mechanism is designed for pack sensing, remember that it cannot be operated without any tape.

Removing the Cassette deck P.C.B

1. Remove the top cover .
2. Remove the 4 screws Ⓔ fixing the Cassette deck P.C.B.
3. Pull out the connectors. (J221,J485,J486,J487,P331,P333,JB331)

Removing the tuner P.C.B

1. Remove the top cover .
2. Remove the 4 screws fixing the tuner P.C.B.
3. Remove the 4 screws on the rear panel.
4. Pull out the connectors. (J102,J221,JB211)

Removing the cassette holder

1. Remove the cassette mechanisms.
2. Remove the connectors .(P943,P492)
3. Remove the gear oil damper fixing with a double-thread screw.
4. Remove the Holder spring from the bracket.
5. Remove the Cassette holder from the Holder bracket.

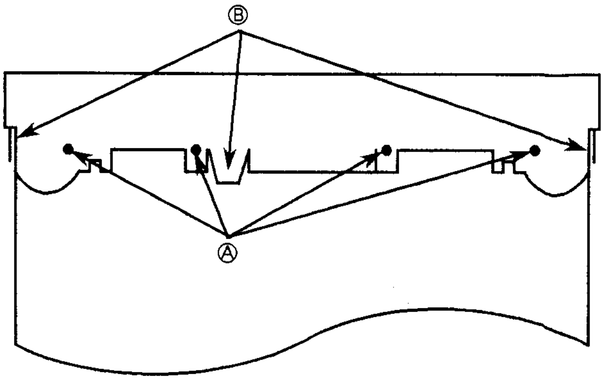


Fig.1

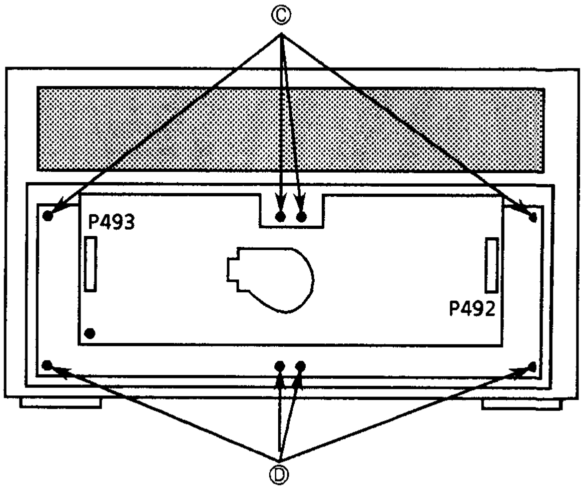


Fig.2

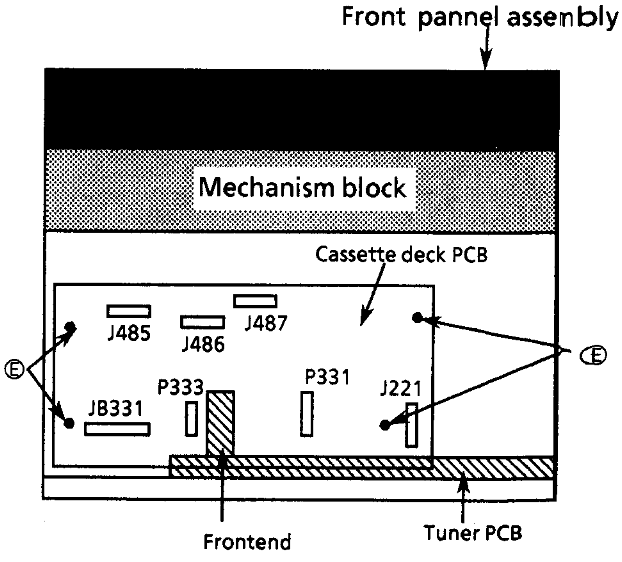


Fig.3

Head assembly

1. Remove the cassette mechanism.
2. Unsolder the flexible wire on the relay PCB, and remove the 2 screws Ⓕ fixing the head assembly(Fig.6).

Notice for installing the head assembly

The direction of the head for forward or reverse mode is switched by the cam gear. The point of the rib for the head assembly installation differs with the head direction. Fig.4 shows the relation of the gears.

Pinch roller arm assembly removal (FWD / REV)

1. Release the pinch roller return spring from the hook (Fig.6).
2. Remove the hook fixing the pinch roller assembly, and remove the pinch roller assembly (Fig.5).

Reel motor PCB removal

1. Remove the mechanism block.
2. Remove the system controller PCB.
3. Remove the screw Ⓘ fixing the reel motor PCB (Fig.7).
4. Unsolder the reel motor.
5. Remove the PCB.

Reel motor removal

1. Remove the mechanism block.
2. Remove the reel motor PCB.
3. Remove the FR arm assembly (Fig.6).
4. Remove the screws Ⓖ fixing the motor.
5. Release the pawl fixing the motor and remove the motor.

Capstan motor removal

1. Remove the mechanism block.
2. Remove the system controller PCB.
3. Remove the reel motor PCB.
4. Remove the 4 screws Ⓗ fixing the bracket (Fig.7).
5. Release the pawl fixing the bracket and remove the capstan motor with the bracket.
6. Remove the 2 screws fixing the motor on the bracket and remove the motor from the bracket.

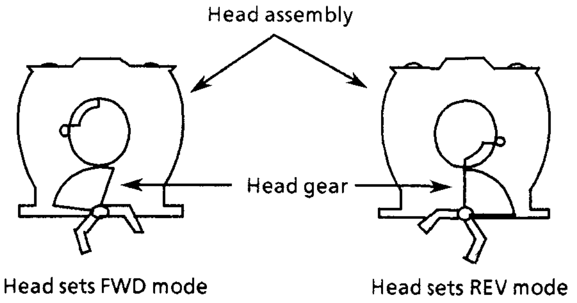

Head assembly
Head gear
Head sets FWD mode
Head sets REV mode

Fig.4 Bottom view of the head assembly

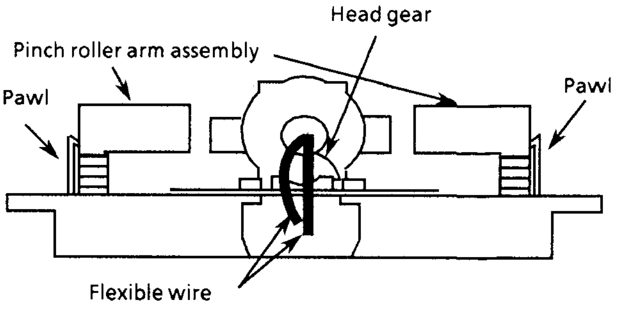

Head gear
Pinch roller arm assembly
Pawl
Pawl
Flexible wire

Fig.5 Bottom view of the cassette mechanism

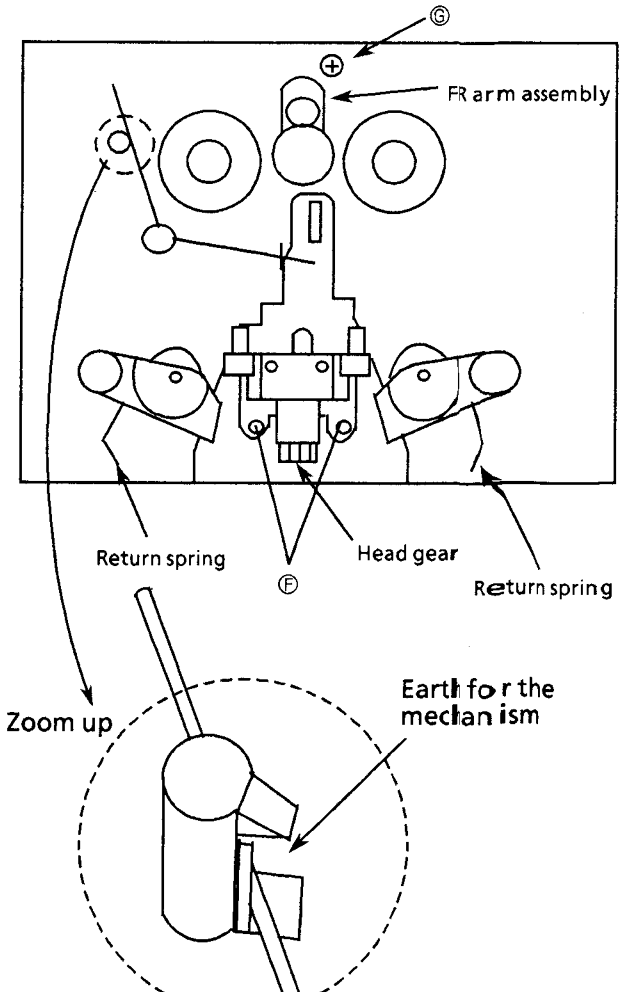

Ⓖ
FR arm assembly
Return spring
Head gear
Ⓕ
Return spring
Zoom up
Earth for the mechanism

Fig6

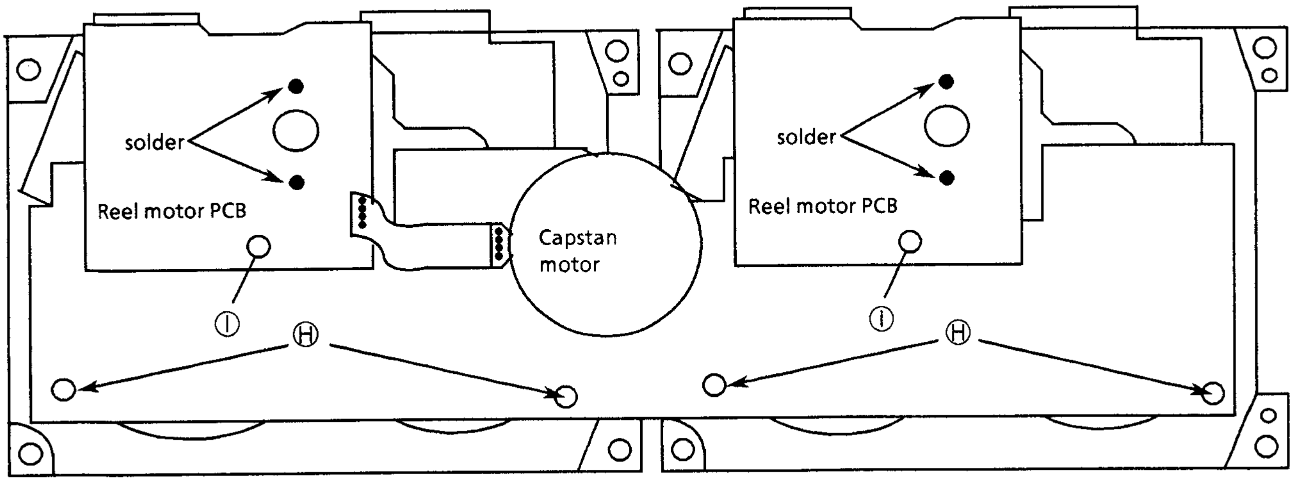


Fig.7 Rear view of the cassette mechanism

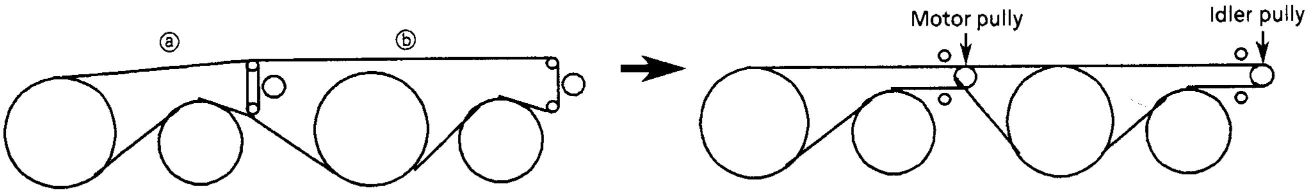


Fig.8 How to put the belts

■ Flywheel removal

1. Remove the mechanism block.
2. Remove the system controller PCB.
3. Remove the reel motor.PCBs.
4. Remove the 4 screws Ⓗ fixing the bracket on which capstan motor is installed.
5. Remove the bracket and the belts.
5. Release the flywheel from the washer .

INSTALL
Install the flywheel and the belts to the mechanism as shown in fig.8. (When putting the belts, put the belt ⓐ first.)
At last, install the bracket with the capstan motor and put the belts on the pullies.

■ CAM switch PCB removal

1. Remove the flywheels.
2. Release the hook fixing the PCB and remove the PCB.

(When installing the CAM switch gears, assemble the PCB so that part Ⓙ meets part Ⓚ.fig.9)

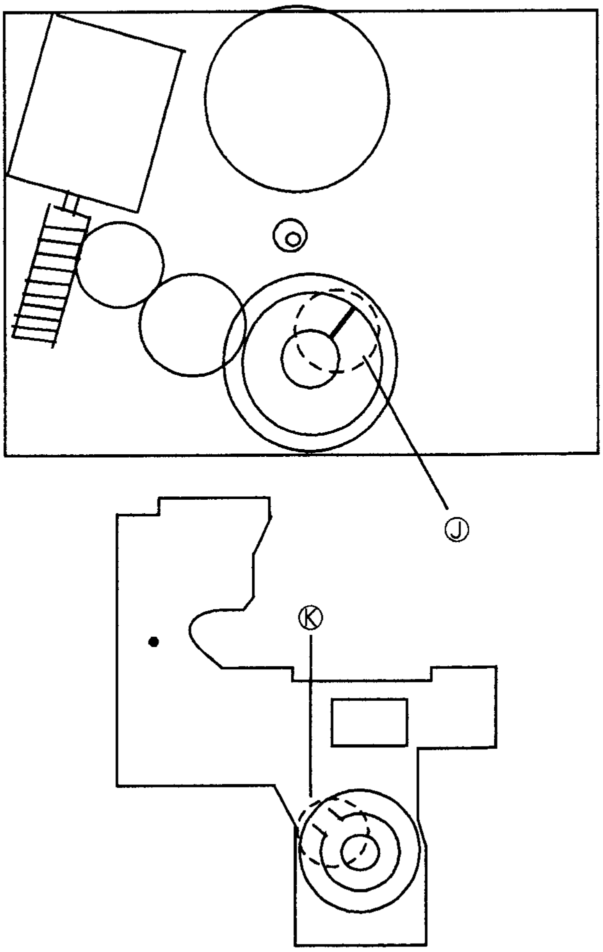


Fig.9 Gear position

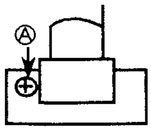
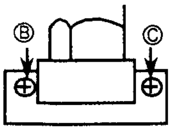
Cassette Deck Adjustment Procedures

(1) Measuring instruments for Adjustment

1. Audio frequency signal generator (0dbs output at the 600 ohm output terminal from 50Hz to 20KHz)
2. Attenuator (600 ohm impedance)
3. Electronic voltmeter
4. STANDARD TAPES
   VTT-704(head azimuth adjustment)
   VTT-712 (tape speed , wow & flutter)
   VTT-724 (Reference level)
5. Recording standard tapes
   AC-513 (CrO2), TS-5 (SF) or equivalent. (Use JVC standard tape)
6. 600-ohm resistor for attenuator matching
7. WOW & FLUTTER meter with frequency counter
8. Distortion meter with band-pass filter
9. Torque gauge : CTG-N (cassette type)
10. C-120 tape (for checking the tape running)

(2) Adjustment and repairing the mechanism

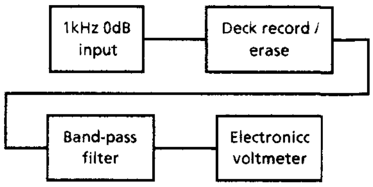
(Adjust and inspect the mechanism before adjusting the electronic circuit)

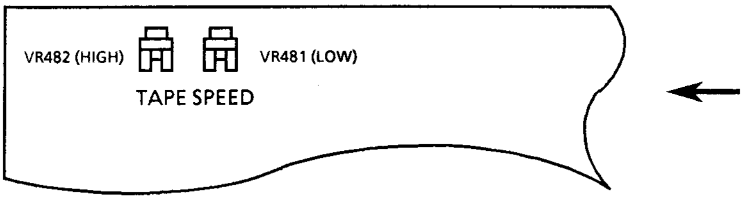
Item	Adjustment method	Standard value	Remarks
Adjusting azimuth of rec/play head	1. Connect an electronic voltmeter to the SPK OUT terminal on AX-MX44BK. (about 1 volt output) 2. Play back VTT-704		1) When the specified characteristic cannot be obtained because of head wear, cut wire, excessive magnetization, etc., replace the head and adjust the head azimuth. Also, perform the adjustment of the playback level, recording bias current, recording level, etc. 2) When there is the difference of more than 3 ~ 4 dB between left and right output levels, replace the head to avoid complaints.
A mechanism 	3. Adjust screw Ⓐ so that the output of the voltmeter becomes maximum when PLAY (▶) is pressed.	Maximum	
	4. After making the adjustment,apply screw lock to prevent screws Ⓐcoming loose .		
B mechanism 	5. Adjust screw Ⓑso that the output of the voltmeter becomes maximum when PLAY (▶) is pressed.	Maximum	
	6. Adjust screw Ⓒ so that the output of the voltmeter becomes maximum when PLAY (◀) is pressed.	Maximum	
	7. After making the adjustment,apply screw lock to prevent screws Ⓑ and Ⓒcoming loose .		
Playback torque	Measure the torque in the playback mode using the torque measurement cassette CTG-N.	20 ~ 65 g-cm	When the standard torque cannot be obtained, clean or replace the take-up disc assembly.
Fast forward torque	Measure the torque in the fast forward mode by the above method.	60 ~ 160 g-cm	When the standard torque cannot be obtained, 1) Clean the capstan belt, rim of the fly-wheel, motor pulley, etc. 2) Change the belt, idler, etc.
Rewind torque	Measure the torque in the rewind mode by the above method.	60 ~ 160 g-cm	When the standard torque cannot be obtained, clean the motor pulley, capstan, rim of the fly-wheel, rim of the supply reel disc, etc.
Wow & flutter	Play back VTT-712 and connect the wow & flutter meter to the SPK OUT terminals on AX-MX44BK, its reading should be within 0.15% (WRMS).		As a complaint may occur if the wow & flutter fluctuates by 0.1% even though it is allowed in the standard, repairing is required.

(3) Electrical Circuit Adjustments

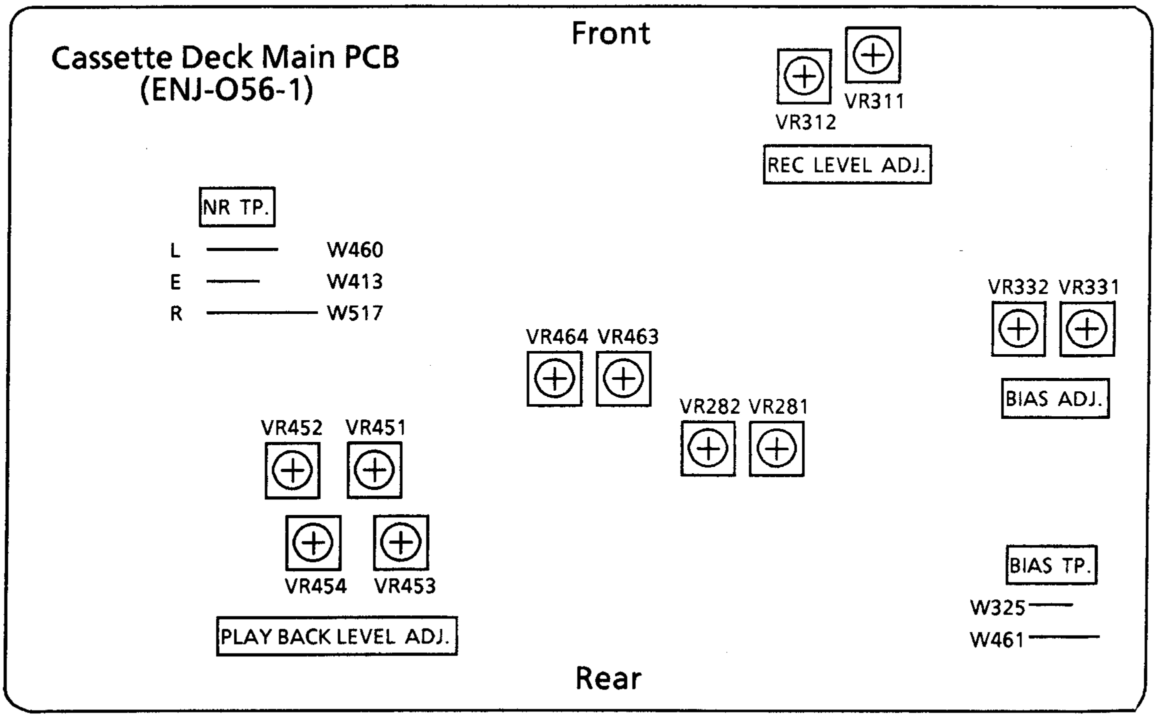
Make the following adjustments after adjusting the head azimuth.
In principle, the adjustments should be made in the following sequence.
Set the NR switch to OFF and the BEAT CUT switch to "1".
Adjustments marked with an asterisk (*) should always be made after the head is replaced.

Item		Adjustment Method	Adjustment Location	Standard Value	Remarks
	Motor speed	1. Play back VTT-712 and connect a frequency counter to the VIDEO / AUX terminal.	Semi-fixed resistor on the main PC Board		Connect a wow & flutter meter with a built-in frequency counter to the VIDEO / AUX terminal. Adjust the normal speed first, and perform the high speed adjustment.
		2. Normal speed Adjustment Play back deck B and adjust the semi-fixed resistor VR481.	VR481	3,000 ± 10 Hz	
		3. High-speed adjustment Play back deck A and adjust the semi-fixed resistor VR482.	VR482	6,000 ± 10 Hz	
* 1	Playback level	Play back VTT-724 (1 kHz) and connect an electronic voltmeter between L and E of NR TP for left, or R and E for right. And then, adjust the semi - fixed resistors.	A (L) VR453 (R) VR454 B (L) VR451 (R) VR452	400mV	The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
* 2	Playback frequency level	Play back VTT-703L (10 kHz) and connect an electronic voltmeter between L and E of NR TP for left, or R and E for right. And then, adjust the semi - fixed resistors.	A (L) VR463 (R) VR464 B (L) VR281 (R) VR282	130mV	The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
* 3	Recording bias frequency	Connect a frequency counter between W325 and W461 on ENJ - 056 - 1, and record a CrO2 tape.	L331	100 ± 5 kHz	
* 4	Recording frequency response	Record 1 kHz/12.5 kHz with the NR switch off and input 30mV to VIDEO / AUX terminal. While playing back these recorded signals, adjust the variation of the 12.5 kHz outputs from the 1kHz output to the standard value using VR331 and VR332. (Basically, adjust so that the 1 kHz and 12.5 kHz outputs are flat.)	(L)VR331 (R)VR332	0 ± 3 dB for 12.5 kHz with 1 kHz as the standard.	1) The recording and playback frequencies of a cassette deck are adjusted by adjusting the bias. This is because the frequency response depends more on the bias current than with an open-reel deck. 2) Perform the adjustment with normal tape and confirm that the values are within the range for CrO2 tape.
		Note : After completing the recording level adjustment in item 4, check the recording and play back frequencies with the NR switch on. Fine adjust again if the value is 0 ± 4 dB or more at 1 kHz and 12.5 kHz.			
* 5	Recording Level	1) Input a 1 kHz (300mV) to VIDEO / AUX terminals and record on the left and right channels . 2) Connect an electronic voltmeter between L and E of NR TP for left, or R and E for right. And then, adjust the semi - fixed resistors when playing back.	(L)VR311 (R)VR312	400mV	Adjust with normal tape and make sure that the level difference is 1.5 dB or less with metal tape and that the left/right level difference is 10 dB or less.

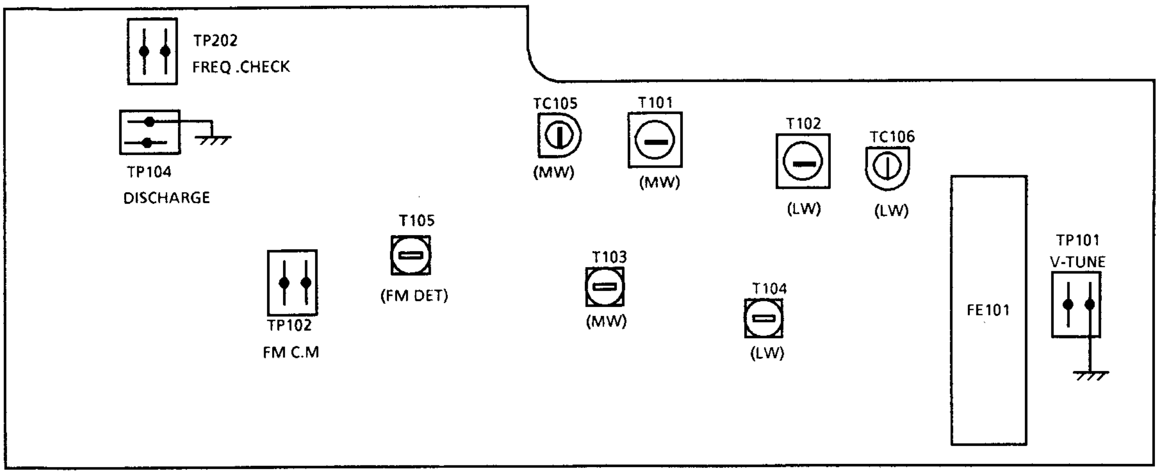
	Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
* 6	Recording/ playback distortion	1) Input a 1 kHz (300mV) to VIDEO / AUX terminals and record it. 2) Play it back and check the out-put with a distortion meter to make sure it is the rated value.		less than 3%	Perform after the bias current and recording level adjustments.
7	Recording/ playback S/N ratio	1) Input a 1 kHz (300mV) to VIDEO / AUX terminals and record it. While recording, remove the input and record without a signal. 2) Play back and use an electronic voltmeter to compare the 0 dB recording output and the out-put of the recording without a signal to make sure this is the rated value.		more than 40 dB	
8	Erase ratio check	1) Input a 1 kHz (300mV) to VIDEO / AUX terminals and record it. 2) Rewind and erase part of the recorded section. 3) Compare the outputs of the recorded and erased sections using an electronic voltmeter.		more than 55 dB	Connect a 1 kHz band-pass filter between the deck and electronic Voltmeter When making the adjustment.  1kHz 0dB input Deck record / erase Band-pass filter Electronicc voltmeter
9	Auto-stop check	When playing back and recording, make sure to operate AUTO STOP.			


VR482 (HIGH)
VR481 (LOW)
TAPE SPEED

System controller PCB (ENJ-O56-2)


Cassette Deck Main PCB
(ENJ-O56-1)
Front
VR312
VR311
REC LEVEL ADJ.
NR TP.
L W460
E W413
R W517
VR332 VR331
BIAS ADJ.
VR464 VR463
VR282 VR281
VR452 VR451
VR454 VR453
PLAY BACK LEVEL ADJ.
BIAS TP.
W325
W461
Rear

FM / AM Tuner Alignment Procedures



1. FM section

Note : ( ) : Rumania,Poland and the U.S.S.R

■ FM oscillator

(1) Set the frequency display to "108.0MHz" (74.0MHz).
(2) Confirm that the FM inter-station noise is received.
(3) Confirm that the voltage of test point "TP101" becomes 8.0 ± 2.0V(7.7 ± 1.3V).
(4) Set the frequency display to "87.5MHz" (64.0MHz) and confirm the voltage of test point "TP101" becomes 1.6 ± 1.0V(2.2 ± 1.0v).

■ FM detector coil : T105

(1) Connect a digital voltmeter to test point "TP 102", and receive to "100.1MHz" (69.0MHz) signal with SSG ATT 70dB.
(2) Adjust T105 so that the digital voltmeter reads 0 ± 1.5mV.

2. MW section

Note : [ ] : The U.S.A and Canada
( ) : Australia , the U.K. and Continental Europe
{ } : Channel space 9kHz for universal version
「 」: Channel space 10kHz for universal version

■ MW oscillator : T103

(1) Set the frequency display to [530kHz] (522kHz) {531kHz} 「 530kHz 」 and confirm that the voltage of test point TP101 becomes [0.9 ± 0.2V] (0.9 ± 0.2V) {1.0 ± 0.2V} 「 1.0 ± 0.2V 」.
(2) Set the frequency display to [1710kHz] (1629kHz) {1602kHz } 「 1600kHz 」 and confirm that the voltage of test point TP101 becomes [8.0 ± 0.8V] (7.5 ± 0.8V){ 7.2 ± 0.7V } 「 7.2 ± 0.7V 」.
(3) If its voltage exceeds the allowance , adjust T103 to obtain the voltage.

■ MW antenna coil : T101

(1) Connect a loop antenna to the "AM Loop" terminal on the rear panel.
(2) Adjust T101 to obtain the best receiving sensitivity on 600kHz or 603kHz.

■ MW antenna trimmer : TC105

(1) Adjust TC105 to obtain the best receiving sensitivity on 1400kHz or 1404kHz.

3. LW section

Note : < > : Italy

■ LW oscillator : T104

(1) Set the frequency display to 144kHz and adjust T104 so that the voltage of TP101 becomes 0.8 ± 0.4V <0.8 ± 0.1V>.
(2) Set the frequency display to 353kHz <290kHz> and confirm that the voltage of test point TP101 becomes 8.0 ± 0.9V <5.7 ± 0.5V>.

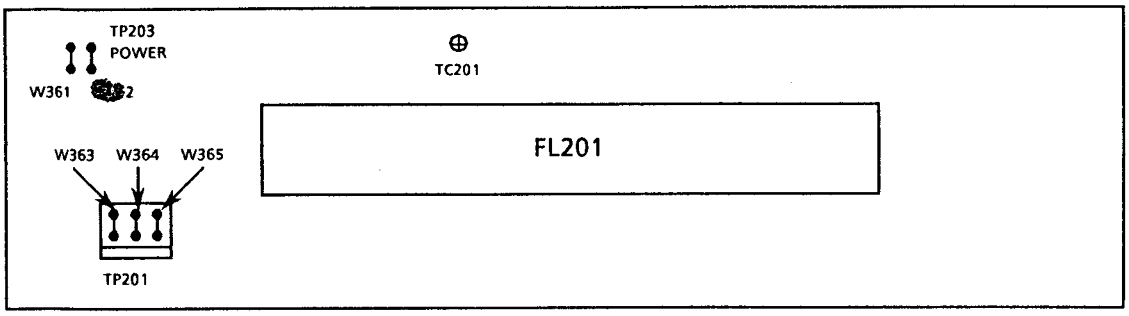
■ LW antenna coil : T102

(1) Connect a loop antenna to the "AM Loop" terminal on the rear panel.
(2) Adjust T102 to obtain the best receiving sensitivity on 164kHz <164kHz>.

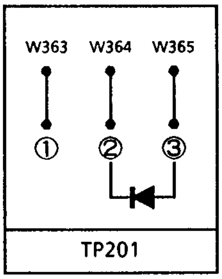
■ LW antenna trimmer : TC106

(1) Adjust TC106 to obtain the best receiving sensitivity on 353kHz <245kHz>.

Clock Generator Frequency Adjustment


TP203
POWER
W361
W362
TC201
FL201
W363
W364
W365
TP201

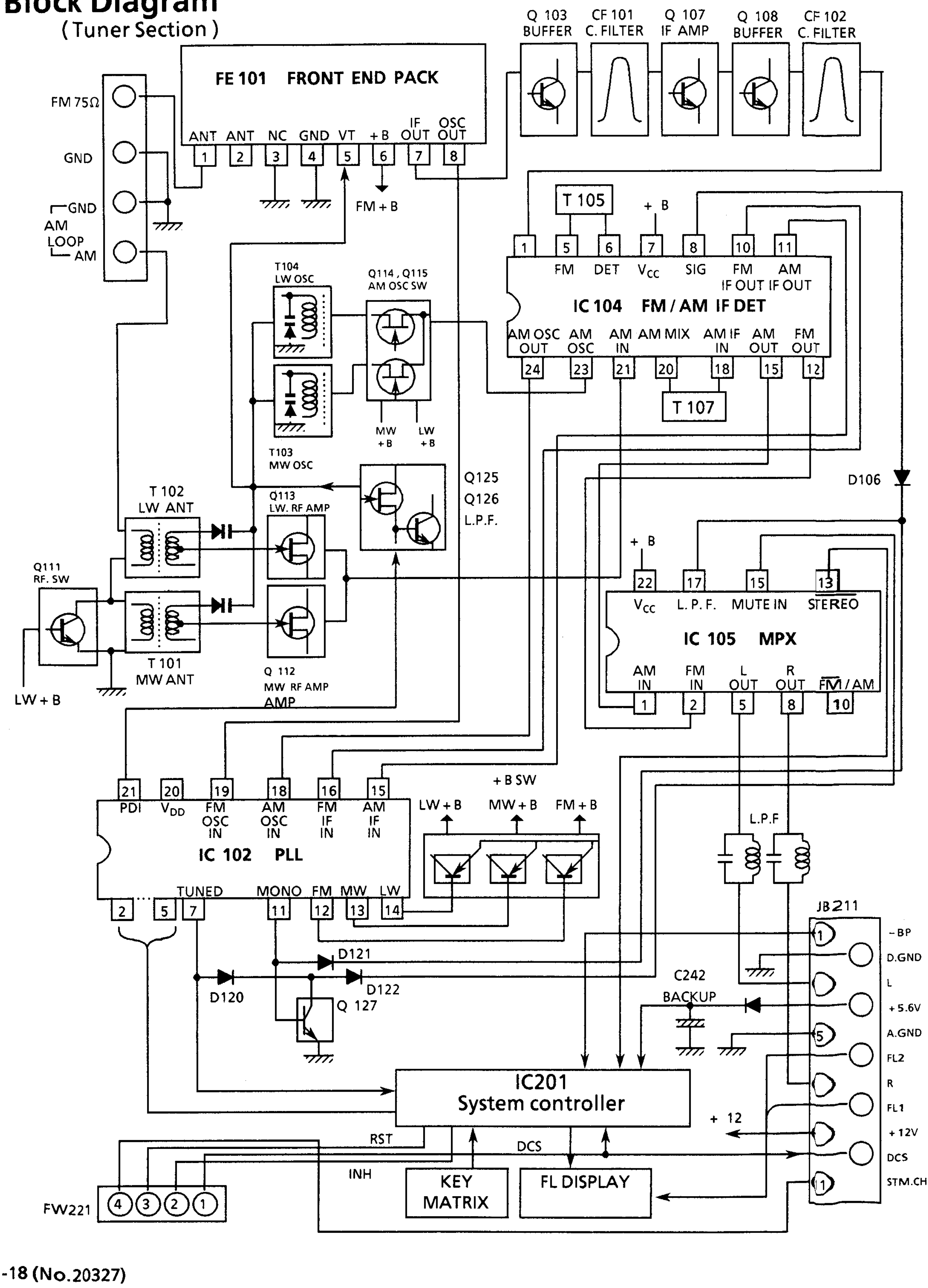
1. Switch OFF the AX-MX44BK's power source,then pull out the AC plug.
2. Short circuit TP201's terminals ② and ③ with the diode as shown in the accompanying diagram, then insert the AC plug into the receptacle to switch the power ON.
3. Confirm that the tuner's FL display is off, then remove the diode and connect the frequency counter to TP 202(FREQ. CHECK).
4. Adjust TC201 so that the counter becomes 34,952.5 ± 0.15 Hz.


W363
W364
W365
①
②
③
TP201

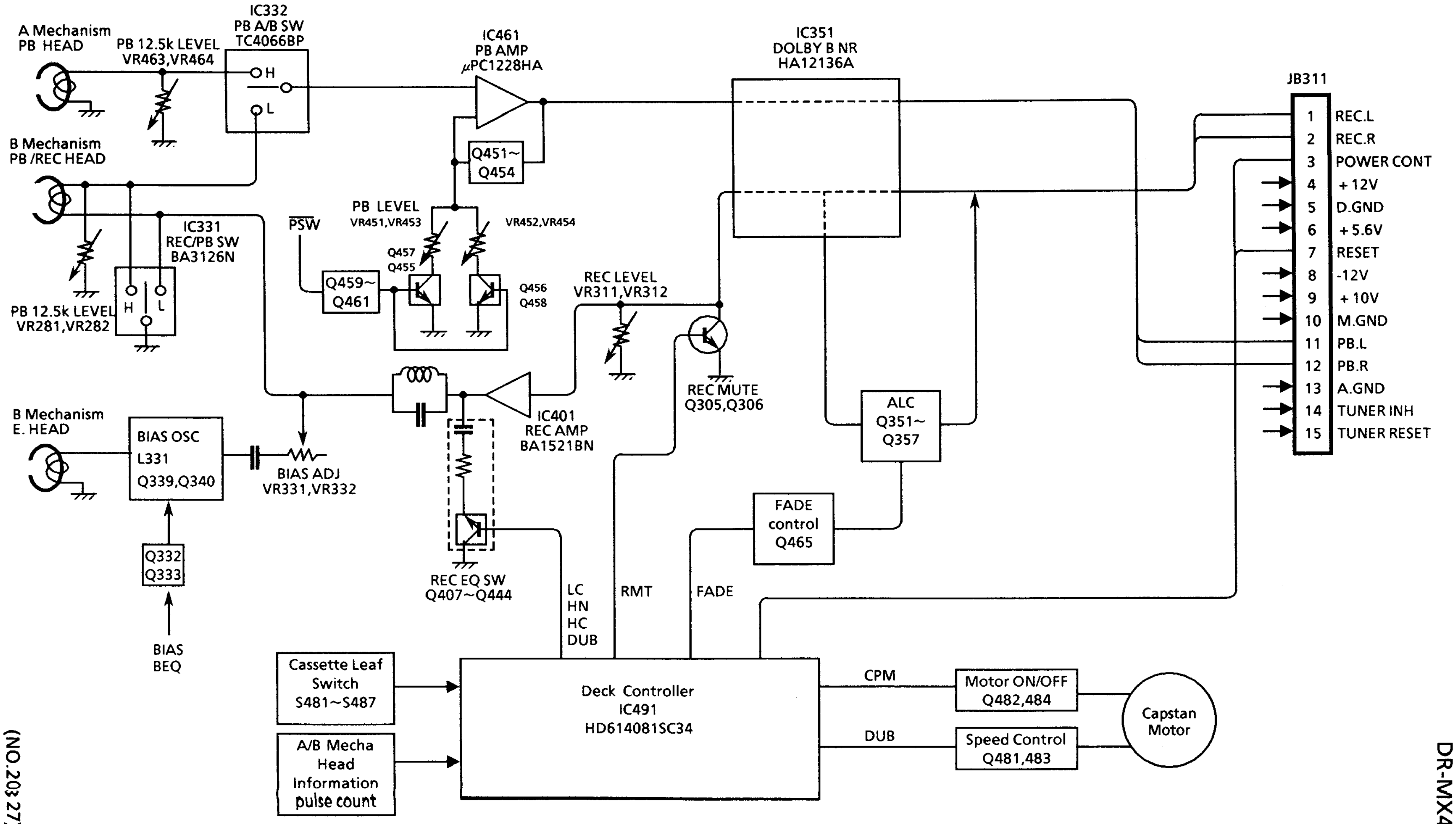
Example :
1SS133
1SS119
1S2473

Block Diagram

(Tuner Section)


FE 101 FRONT END PACK
ANT
ANT
NC
GND
VT
+B
IF OUT
OSC OUT
1
2
3
4
5
6
7
8
FM + B
FM 75Ω
GND
GND
AM LOOP
AM
Q 103 BUFFER
CF 101 C. FILTER
Q 107 IF AMP
Q 108 BUFFER
CF 102 C. FILTER
T 105
+ B
1
5
6
7
8
10
11
FM
DET
V_{CC}
SIG
FM IF OUT
AM IF OUT
IC 104 FM / AM IF DET
AM OSC OUT
AM OSC
AM IN
AM MIX
AM IF IN
AM OUT
FM OUT
24
23
21
20
18
15
12
T 107
T104 LW OSC
Q114, Q115 AM OSC SW
T103 MW OSC
MW +B
LW +B
Q125
Q126
L.P.F.
Q113 LW. RF AMP
T 102 LW ANT
Q111 RF. SW
T 101 MW ANT
LW + B
Q 112 MW RF AMP AMP
D106
+ B
22
17
15
13
V_{CC}
L. P. F.
MUTE IN
STEREO
IC 105 MPX
AM IN
FM IN
L OUT
R OUT
FM / AM
1
2
5
8
10
21
20
19
18
16
15
PDI
V_{DD}
FM OSC IN
AM OSC IN
FM IF IN
AM IF IN
IC 102 PLL
+ B SW
LW + B
MW + B
FM + B
TUNED
MONO
FM
MW
LW
2
5
7
11
12
13
14
D121
D120
D122
Q 127
L.P.F
C242 BACKUP
JB211
1
5
11
- BP
D.GND
L
+ 5.6V
A.GND
FL2
R
FL1
+ 12V
DCS
STM.CHE
IC201 System controller
+ 12
RST
DCS
INH
KEY MATRIX
FL DISPLAY
FW221
4
3
2
1

Cassette Deck Section


A Mechanism PB HEAD
PB 12.5k LEVEL VR463,VR464
IC332 PB A/B SW TC4066BP
H
L
IC461 PB AMP μPC1228HA
IC351 DOLBY B NR HA12136A
JB311
1 REC.L
2 REC.R
3 POWER CONT
4 +12V
5 D.GND
6 +5.6V
7 RESET
8 -12V
9 +10V
10 M.GND
11 PB.L
12 PB.R
13 A.GND
14 TUNER INH
15 TUNER RESET
B Mechanism PB /REC HEAD
Q451~ Q454
PB LEVEL VR451,VR453
VR452,VR454
PSW
IC331 REC/PB SW BA3126N
Q457 Q455
Q456 Q458
Q459~ Q461
PB 12.5k LEVEL VR281,VR282
H
L
REC LEVEL VR311,VR312
REC MUTE Q305,Q306
IC401 REC AMP BA1521BN
B Mechanism E. HEAD
BIAS OSC L331 Q339,Q340
BIAS ADJ VR331,VR332
ALC Q351~ Q357
FADE control Q465
Q332 Q333
BIAS BEQ
REC EQ SW Q407~Q444
LC HN HC DUB
RMT
FADE
Cassette Leaf Switch S481~S487
A/B Mecha Head Information pulse count
Deck Controller IC491 HD614081SC34
CPM
DUB
Motor ON/OFF Q482,484
Speed Control Q481,483
Capstan Motor